



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

### Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

### About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

A 757,567 DUPL

Governing Principles  
Relating to Train Dispatching

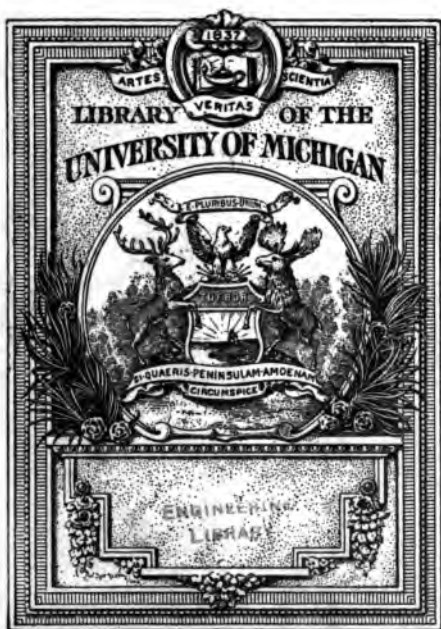
AND

Operators' Examination

CONSOLIDATED

*Second Edition*

H. W. FARMAN



LIBRARY

TF

563

F72

1907

21771





# Governing Principles Relating to Train Dispatching

---

By *H. W. FORMAN*  
*Author of "Rights of Trains on Single Track."*

---

90 cents, prepaid; two or more copies to one address, 75 cents each.

Remit to

H. W. FORMAN,  
930 Broadway, Nashville, Tenn.

•

---

**COPYRIGHT, 1907,  
BY H. W. FORMAN.**

---

**MARSHALL & BRUCE CO.  
Stationers, Printers and Publishers,  
Nashville, Tenn.**

•

11-16-09

# CONTENTS.

## GOVERNING PRINCIPLES.

PAGE

Introduction .....	7
Discipline .....	9
Irregularities .....	10
Scientific train dispatching .....	10
Misunderstandings .....	10
Care in transmitting .....	13
Checking repetitions .....	13
Rules 202 and 213 .....	13
Issuing orders at convenient places and at proper time....	15
Avoid unnecessary orders .....	15
Take up unnecessary orders .....	16
Specify sections .....	16
Reversing superiority at stations .....	17
Sawing trains .....	18
Sections must maintain sequence .....	18
Give meeting orders to all before meeting points are reached .....	19
Use the meet instead of the right form .....	20
First train to be met should be first mentioned .....	21
Give run-late orders to all sections closely following.....	21
Giving less time to a following train than one in advance.	21
Engines bearing similar or the same numbers .....	22
Suspending prescribed clearance .....	22
Signing orders for conductor .....	23
Verbal instructions .....	23
Operator absent or presumably asleep .....	24
Restricting trains where view is obstructed, stormy weather, bad rail, etc. ....	24
Storms .....	25
How to complete orders if wires likely to fail .....	26

(3)

200098



	PAGE
Wrecks and washouts .....	27
How to word orders when starting trains before superior train arrives .....	28
Starting from intermediate stations where view is ob- structed .....	30
Train rapidly gaining upon another .....	30
Repeating orders .....	30
Anticipating the needs of trains .....	30
Making transfer to relieving dispatcher .....	31
Keep up the O S of trains .....	32
Inspecting division .....	32
Trains tied up at blind sidings .....	33
Fixing meeting points at blind sidings .....	33
Rule 82 .....	35
The 19 order .....	36
The middle order .....	41
Rule 219 .....	42
Advising crews they need not protect .....	43
Instructing trains to flag from open telegraph offices.....	43
Instructing operator to change order-signal to proceed....	44
Giving train signal to hold main track at stations .....	45
When air brake fails .....	45
Doubling .....	46
Running trains against the current of traffic .....	47
Rule 96 .....	47
Displaying signals on short-run, branch trains, etc. ....	49
Foreign crews using your line in an emergency .....	50
Clearing trains at initial stations .....	51
Time-table changes .....	51
Directing trains to run by and back in .....	61
Giving right over all trains .....	61
Giving first notice of restriction at meeting point .....	62
Filing orders .....	63
Addressing orders to all concerned .....	64
Annuling orders .....	66
When extra and regular trains run in company .....	74
Restricting trains by night at day offices .....	75
Entering orders in record-book .....	75
Entering trains on train sheet .....	76
Passing a train at a blind siding .....	76

	PAGE
Meeting orders .....	77
Time orders .....	83
Creating sections .....	84
<b>EXTRA TRAINS—</b>	
Superiority of extras .....	87
Extras which make several trips within same territory during a day .....	89
Short running orders .....	90
Work extras .....	92
Annuling schedules, sections and extras .....	95
Superseding orders .....	96
Qualifying movements .....	96
Questions and answers .....	98

### OPERATORS' EXAMINATION.

Introduction .....	102
Book of Rules .....	103
Definitions .....	103
Standard time .....	104
Time-tables .....	105
Signal rules .....	106
<b>SUPERIORITY OF TRAINS—</b>	
Rule 71 .....	108
<b>MOVEMENT OF TRAINS—</b>	
Rule 82 .....	109
Rules 91 and 91(a) .....	109
Rules 83 and 95 .....	110
Rule 96 .....	111
Rule 99 .....	112
Rule 104 .....	113
<b>MOVEMENT BY TRAIN ORDERS—</b>	
Rule 201 .....	113
Rule 204 .....	114
Rules 206 and 209 .....	115
Rule 208 .....	115
Rule 210 .....	119
Rule 211 .....	122
Rule 211(a) .....	123
Rule 212 .....	126

	PAGE
Rule 214 .....	126
Rule 217 .....	128
Rule 218 .....	129
Rule 219 .....	129
Rule 220 .....	132
Rule 221 .....	134
Rule 222 .....	135
Miscellaneous .....	136

## INTRODUCTION.

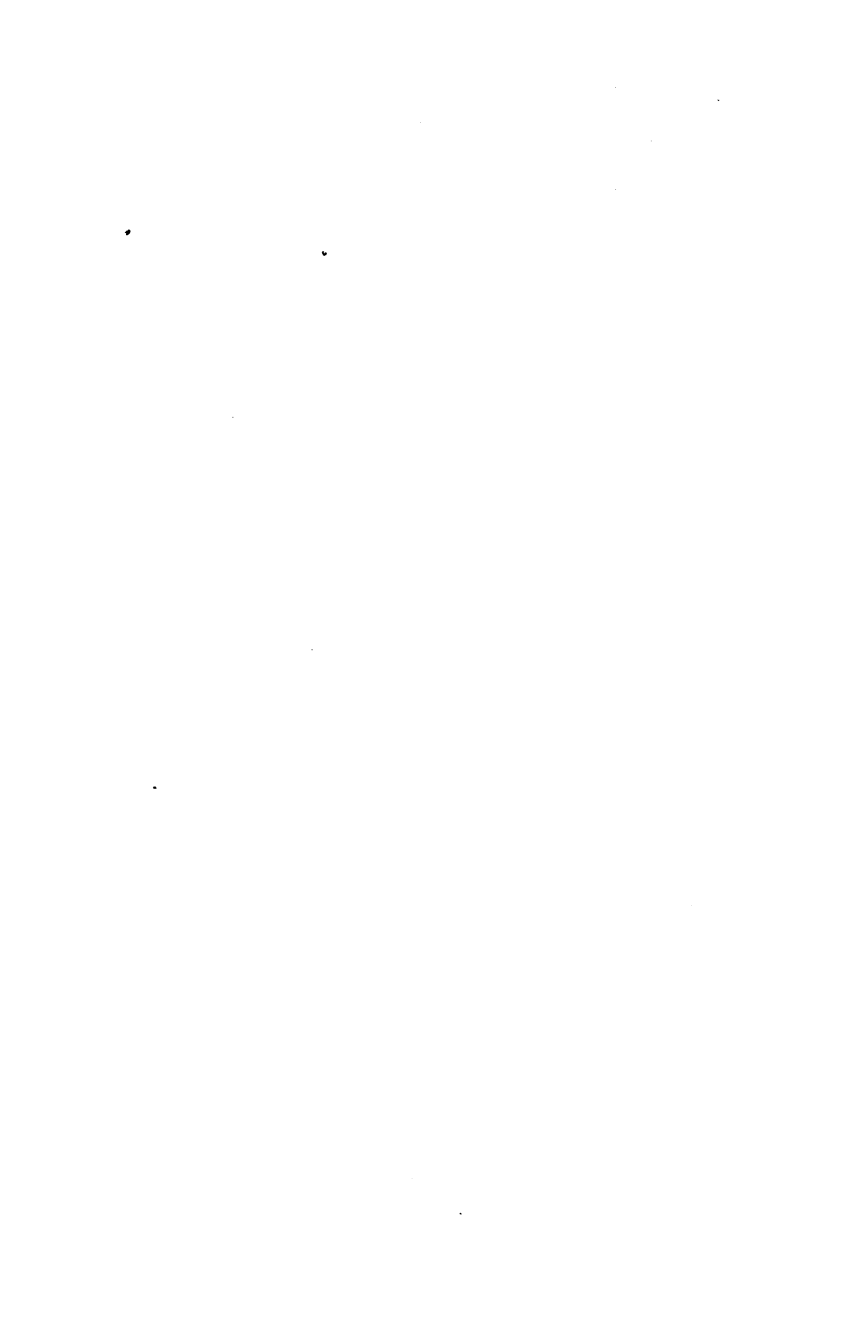
THEORIES upon which rules are based, and necessity for observing them, cannot be set forth in a book of rules; full explanation may be attempted only in this supplementary manner.

It is possible to so encompass train dispatchers by rules and instructions that collisions within their power to prevent would be practically unknown, but, in so prescribing, it is doubtful if traffic could be handled satisfactorily.

While reasonableness is advocated, it has been the experience of the author that it is unsafe to habitually disregard the principles herein discussed.

HARRY W. FORMAN.

*Nashville, Tenn., September, 1907.*



# Governing Principles Relating to Train Dispatching.

---

## DISCIPLINE.

While on duty, do not read books or papers, write letters, or engage in clerical work not related to your duties. Require operators to comply with the rules in stating that "stop" is displayed, repeating orders, etc., and otherwise enforce discipline among them, but always in a kindly manner. Accommodate them in every reasonable way, endeavoring to retain their respect and good will.

Do not forget that you are representing an official and, while you should be firm, just and impartial, view the matter philosophically, keeping in mind that many things clear to you may not be as well understood by persons of lesser knowledge or experience.

Cheerfully answer all questions relating to movement of trains, and avoid sending messages of an embarrassing nature.

In absence of officials, act for them, using your best judgment, until communication can be had with them.

Keep your office private; do not hesitate to request loafers to withdraw therefrom. It often happens that officers, at great inconvenience to themselves, refrain from conversing with dispatchers, and withhold company mail which might distract their thoughts from the work at hand, until after they are relieved, knowing that their duties are such that it is best not to disturb them in any way.

## **IRREGULARITIES.**

Fully acquaint the officer to whom you report with all facts relating to irregularities in the movement of trains, errors in train orders, or failure to issue or properly deliver them.

## **SCIENTIFIC TRAIN DISPATCHING.**

When such expressions as "I claim," "He should have known," etc., are heard, conclusion may at once be drawn that the order or rule under discussion is faulty. If this were not true, there would be no argument nor misunderstanding. While intricate problems may be delightful exercise for the brain of an idle person, they have no place in practical railroading where a misunderstanding may result in loss of life. Scientific train dispatching means giving only such orders as are necessary, wording them simply and briefly, always in the same form, and permitting only such as a train must receive to be delivered to it.

## **MISUNDERSTANDINGS.**

Do not permit a train to be delayed through a misunderstanding, or for lack of information. Even though you may be in the right, you should promptly issue instructions that may be necessary to prevent delay, and refer the case to proper officer for adjustment.

Orders must be so worded that those who are to be governed by them can readily and clearly grasp their exact meaning without special mental effort. Do not imitate the forms or expressions previously used on some other road, but conform to those of the Company employing you. Forms may be combined only in such manner as will not cause confusion. While orders should be briefly

expressed, do not, merely for the sake of brevity, omit such words as "will," "and," "meet," etc., if, by inserting them rather oftener than may seem necessary or elegant, a movement can be more clearly expressed. Give attention to periods and paragraphing, instructing operators with regard to such matters, thereby avoiding ambiguity, as illustrated by the following examples: "Eng. 30 will run extra E to A. All trains now due at E have passed except Nos. 11 and 13 and No. 15 of Sunday, March 31st, is annulled A to Z." If annulment of No. 15 had been inserted after instructions to run extra, and then information given that all other overdue trains had passed, except Nos. 11 and 13, the order would have been clear. Dispatcher probably thought the operator would make a separate paragraph of the annulment of No. 15, but he failed to do so. Fully as serious a misunderstanding might have arisen had time been given against some of the trains mentioned, as shown by the following order: "No. 11 will wait at C until 11.30 A. M. No. 13 will wait at B until 12.10 P. M. for No. 10." This order holds No. 11 at C until 11.30 A. M., but might have been misunderstood by the crew of that train to mean that they could leave there before that time should No. 10 arrive earlier. The movements should have been made under separate order numbers, or, if dispatcher really wished No. 11 to wait at C only for No. 10, he should have mentioned that train in connection with the time at C. The order would have been still more unsafe had other opposing trains, inferior to No. 11, received copies.

Another order is recalled which read: "Eng. 20 will work extra 7.10 A. M. until 11.30 A. M. between B and A protecting against Extra 30 south and against Extra 40 south after 8.10 A. M." As dispatcher wished extra 20



to protect against extra 30 after 7.10 A. M., the order should have been worded: "Protecting against Extra 30 south after 7.10 A. M. and against Extra 40 south after 8.10 A. M."

The following order was given recently to a crew from another division, and by an experienced train dispatcher: "Eng. 20 will run extra Z to A. 4th No. 13 of August 1st is annulled W to Z. 3d No. 13 of August 1st is annulled S to W. 2d No. 13 of August 1st has arrived at R and is annulled R to S. 1st No. 13 has arrived at S and 2d No. 13 has arrived at W." Even under this elaboration of an extremely simple movement, dispatcher trapped the crew by failing to advise it that 2d No. 13 had arrived at R with no signals. An order to run extra, with information that all overdue trains had passed Z, except the certain other regular trains which the extra was helped against, would have been sufficient. After all sections of No. 13 were off the road the crew of extra 20 would have been as fully cared for by such an order.

In an August, 1907, magazine the question is asked as to what must be understood by extra 20 south under a combination of orders reading about as follows: "Order No. 1. Eng. 20 will run extra A to Z and will meet No. 2 at E." At B, extra 20 received Order No. 2, reading, "Extra 20 South will meet 1st No. 2 at D instead of E and has right over 2d No. 2 to F." At C, the extra was given Order No. 3, reading, "Order No. 2 is annulled."

Under such a remarkable train order movement the extra is of course left without help against the first section of No. 2 and still meets all the other sections at E; but I shall be agreeably surprised if there are not dispatchers who disagree with this view, because they do not carefully consider the effect that the words "instead of"

have upon former orders, more especially when only a part of an order is superseded. The pity of it is that we pass up to train and enginemen orders which we dispatchers may not ourselves correctly understand!

#### **CARE IN TRANSMITTING:**

Exercise care in transmitting, accommodating your speed to the capacity of the receiving operator. If orders are sent too rapidly, certain words are liable to be omitted which have to be filled in afterward, or a new copy may have to be made, thus causing delay and incurring unnecessary risk. When more than five copies must be made at one writing, it is difficult for operator to write rapidly, as he must bear down heavily.

#### **CHECKING REPETITIONS.**

Write or underscore each word or figure of an order while being repeated. Do not write ahead of or behind the operator's sending, thus defeating the very object sought—absolute verification. It is well known that order numbers are not always checked carefully; perhaps no other error is so common as orders being delivered numbered differently from those in dispatcher's record-book. When it is remembered that they are annulled by their number, necessity for extreme care in this connection will vividly impress one.

#### **RULES 202 AND 213.**

The requirement that orders must be given in the same words to all trains affected is principally to prevent the possibility of failure to properly instruct superior trains. The fact that superior trains are held by other orders will not suffice. Nor may the wires be depended

upon to continue working until such time as it is convenient to restrict superior trains and, meantime, permit inferior trains to move by order against them. Wires often fail, or it may be impossible afterwards to raise the operator in time to hold the superior train. To give a train an order to run thirty minutes late and afterward depend upon such order as a holding order while more of this train's time is given to other trains, or to assume that a train cannot recover the time given to other trains and not at the same time address the time-order to the train restricted, is forbidden. Nor may the annulment of a schedule be given to any train without first addressing such annulling order to the train (or trains) authorized by such schedule if on the road, or to "All Concerned" at the initial station of such schedule, if the train has not started; and receiving the prescribed response. Being aware that men will run only so far, or that there will not be a crew called to take out the train which is to be annulled, is not authority to forbear addressing the annulling order as described.

It is unsafe to permit an operator to copy or repeat only as much of an order as affects trains at his station, as such abbreviated copy might be delivered to a train and acted upon on the assumption that, being numbered the same as the copy received at some other station it contained the same instructions, and conductor or engine-man neglect to again refer to the copy previously given them. There is also risk in directing certain operators to discontinue copying and then instructing other operators to add to their copies. However, there is no serious objection to instructing an operator to add "Order No. 10 is annulled," or, "Instead of B," to copy at his office and omitting this information from copies sent to trains not

concerned in this part of the order at other stations. Nor does there seem to be danger in adding instructions to run extra to certain copies and omitting from others. In all cases where the "middle order" is used, copy addressed to operator at each office should contain all information relating to meeting or waiting for trains, time, work extras, etc.

#### **ISSUING ORDERS AT CONVENIENT PLACES AND AT PROPER TIME.**

When possible, avoid stopping trains for orders at stations located on heavy ascending grades. Movement is greatly facilitated and safety enhanced by sending orders to points where trains are scheduled to stop, or it is known they must do so for other reasons. There is risk in issuing orders a long time before delivery, or unnecessarily distant from where trains are to be met or waited for. Many things may happen before the meeting point is reached, such as exceptional delay, to cause the orders to be overlooked. When the middle order is used under such circumstances, a valuable additional safeguard is thrown around the trains.

#### **AVOID UNNECESSARY ORDERS.**

When passenger trains are on time, give them only such orders as are necessary to restrict them for other passenger or exceptionally fast freight trains. When only a few minutes late, permit them to again attain their schedule time, thereby avoiding unnecessary work for yourself, and delay to other inferior trains. While a passenger train is being held for one freight train, often many others will suffer, because, being only a few minutes late,

dispatcher does not feel warranted in delaying it further, if, indeed, he can find time to issue the necessary orders.

Do not overlook the fact that train orders often delay trains while conductors and enginemen are reading them, even at stations where trains stop for other purposes; and that there is more risk in many orders than a few, for the reason that some order may be overlooked when so many must be kept in mind.

Only such information as directly affects a passenger train should be given to it, not such as to compel the crew to read instructions referring to freight train movements, thus possibly causing confusion which might result in overlooking a part of an order. For instance, do not address an order to a passenger train, making a number of meeting points for freight trains in which the passenger train is not concerned, and have only one line at bottom of order instructing the passenger train to run, 'say ten minutes late; split up such orders, giving the run-late instructions separately.

#### **TAKE UP UNNECESSARY ORDERS.**

Orders which have accomplished the purpose for which issued and which it is unnecessary for crews to receive, should be annulled. It is safer and expedites trains to deliver to them only such orders as are unfulfilled.

#### **SPECIFY SECTIONS.**

Do not refer to a schedule which is represented by sections by its schedule number alone; whenever possible address the order to and mention in body all sections helped or restricted. To say that No. 1 will run late, when there are several sections, is little short of crimi-

nal. An impression is thereby lodged in the minds of men receiving the time that is quite difficult to get rid of, even though attention be called by whistle to section following.

Be particular to advise operators concerned as to the number of sections, when sections cannot be specified, to enable them to prepare the requisite number of copies, and to serve to prevent their failing to deliver copies to all. Operators sometimes cannot inspect the front of engines, and enginemen do not whistle signals for their benefit. It would be an easy matter for an operator to deliver the order to the first section only and then restore order-signal to proceed, being under the impression that there was but one train on the schedule.

#### REVERSING SUPERIORITY AT STATIONS.

Physical conditions, tonnage, or the importance of trains, may make it occasionally advantageous to instruct superior train to take siding, but do not make a practice of doing so; adhere to the time-table provisions for taking siding as closely as is reasonable. Dispatchers should not interfere, except when necessary in changing meeting points; when time can be saved; or the inferior train is the more important. It may be desirable at times to depart from the rules where there are cars on the siding and the inferior train is heavily loaded, while superior train is not; or the grade is such that inferior train cannot back out to pass cars. If trains going in a certain direction always hold the main track over inferior trains in the opposite direction, confusion and perhaps accident will be avoided.

### **SAWING TRAINS.**

Nothing is gained and considerable risk is incurred by bunching trains at stations, compelling a "saw." Trains should be so handled that there will be no time lost in passing. When there is likely to be delay, instruct, as far as possible, how to do the sawing in the least time. If left to trainmen to decide it is probable an attempt will be made to advise movements that will result in the least work for the person who undertakes to handle the matter. Often much time can be saved by running some of the freight trains to another siding ahead of passenger trains. So much time is consumed in sending out flagmen, waiting for them to come in, etc., that it will be found to be much better to allow part of the trains to wait at other stations. If all of the trains are permitted to arrive at the station without any instructions, you will find that, if some of them must be sawed out, much more time will be consumed in getting by than would have been the case had the men been told in advance what to expect, or what should be done.

### **SECTIONS MUST MAINTAIN SEQUENCE.**

However urgent the case may be, do not sanction or authorize a section following to run ahead of a section in advance, without instructing that identity be changed; that is, do not permit the second section to run as second ahead of the first section of the same schedule. It is also bad practice to allow sections of one schedule to run between sections of another schedule when it can be avoided. Often it cannot be helped, but there are many times when it is permitted that there is absolutely no call or necessity for it.

## GIVE MEETING ORDERS TO ALL BEFORE MEETING POINTS ARE REACHED.

Meeting and waiting orders should, whenever possible, be issued before arrival at station at which trains are to be met. This is especially desirable when a passenger train is restricted. If first notice is given of restriction at the place of meeting, only one order-signal is displayed at stop. There are many cases on record of failure of operators to properly display order-signal, or forgetting to deliver all orders to superior trains at the meeting point. The fact that the superior train is very important and not scheduled to stop until meeting point is reached, should not be considered.

All trains to be met at a station should be mentioned in the order, or such other instructions given as may be necessary to prevent misunderstanding. Take, as an illustration, a recent hazard: A third section was given an order to take siding and meet an opposing train. Dispatcher expected to get the train to be met by the third section to a station beyond for the fourth section, but this train was delayed and the fourth section came to the station where the third was waiting and, not being restricted, overlooked the third section which was displaying only one flag, passed it, and met the train for which the third section was restricted between stations. Dispatcher failed in his duty, as the train which was to meet the third section might have held the main track on the supposition that fourth was on siding behind third and collided with it in a fog at the station where third was restricted, even if the fourth section had not gotten by that station ahead of third. Bear in mind it is the unexpected that causes accidents, and take necessary steps to avoid trapping train and engine crews. Often there



are several tracks at a station and a section is likely to go in on a siding and be so obscured by cars between it and the main track that following sections might take it to be an extra and pass it. It is well known that men sometimes fail to display signals properly, or to call their signals to trains which pass them. Also, under the rules, trains of one schedule may pass trains of another schedule of the same or inferior class. When there are two or more schedules represented by sections, and they are all in company, an oversight of this kind could easily occur, hence the requirement that all trains affected be mentioned in orders, or such additional information be given as may be necessary to avoid accident between trains in the same direction, or to prevent a train from moving against another through misunderstanding or lack of information. No doubt new code Rule 85 is the better practice, but it is sometimes unsafe. On roads where freights are scheduled as second, third or fourth class, and often pass freights at stations without knowing what is being passed, it is difficult to understand how men avoid passing sections of their own schedule, especially when an elevator obstructs the view, or running orders do not show the number of engine on section in advance, or an engine breaks down and another is provided, without advising the following section.

#### **USE THE "MEET" INSTEAD OF THE "RIGHT" FORM.**

The meeting form of order should be used when practicable. The "right" form is proper in many instances, but confusion is often caused in the minds of train and enginemen when superiority is reversed by right order and, afterward, a meeting point is fixed within such ter-

ritory. Many collisions can be traced to this misunderstanding. However carefully men may be instructed, and seemingly bright they appear while off duty, they become mixed at times on the road and get the impression that a right order governs them to the exclusion of a later meeting order, or the reverse. This is especially true when men hold an order bearing a higher number because issued before midnight, and one numbered lower given after that hour; they do not observe the dates carefully.

**FIRST TRAIN TO BE MET SHOULD BE FIRST MENTIONED.**

The train first to be met should be the first one mentioned in order, and stations at which trains are to be met or waited for should be named in the order in which they will be passed.

**GIVE RUN-LATE ORDERS TO ALL SECTIONS CLOSELY FOLLOWING.**

A section ahead must not be instructed to run so late that it will have to "kill time" between or wait for time at stations, without also addressing the run-late order to sections of the same schedule closely following. It is not imperative that such following sections also be directed to run late, but they should be given a copy of such restricting order, as it is information necessary for them to have.

**GIVING LESS TIME TO A FOLLOWING TRAIN THAN ONE IN ADVANCE.**

Do not give a train one hour's time of an opposing superior train and then issue only thirty minutes of such train's time to a train which may be closely following.

The train in advance may run slowly on account of having ample time to reach a station in advance and clear, while the train following may have to run rapidly and so strike the train ahead which has more time.

#### **ENGINES BEARING SIMILAR OR THE SAME NUMBERS.**

When engines bearing similar numbers are met, partly by train order and partly by time-table, it is recommended that the attention of operators and others concerned be called to the fact. If track be used jointly by several companies and there be therefore two engines of the same number, state in orders the initials of the engines of each company, in addition to their numbers. Some companies do not require the engines of regular trains to be mentioned in train orders, but the practice is excellent, as engine numbers assist in identifying trains and in many other ways prevent misunderstandings.

#### **SUSPENDING PRESCRIBED CLEARANCE.**

Clearance prescribed by rule is the least that the Company deems safe, therefore do not suspend it, or encourage others to do so, by giving time-orders which will not allow the movement to be made without infringing thereupon; nor should operators be instructed to refrain from spacing trains as prescribed by rule.

It is not always safe to permit an engine running light, or a freight train having only a caboose, to follow a passenger train closer than fifteen minutes. Keep this in mind, and when the conditions as to weather, grade or curves are such as to warrant your keeping such trains this length of time behind passenger trains, you will be upheld in doing so.

### **SIGNING ORDERS FOR CONDUCTOR.**

Do not instruct operators to sign conductor's name to a 31 order and deliver without stopping train, but, instead, send the order on the 19 form, if not necessary to receive signature. When such practice is followed, there is then too much likelihood of an operator sometimes without authority sending the conductor's signature before the latter has actually written it upon the order, and before the train whose superiority is restricted has arrived at the station, or is protected or placed on siding, if at the station at the time.

### **VERBAL INSTRUCTIONS.**

If a mistake be made in registering signals or train numbers, instruct operator by train order to make the necessary correction. Do not attempt to handle such matters as changing registers, advising of overdue trains, broken rails, unsafe bridges, protecting trains, etc., verbally. If you always issue instructions in writing, as prescribed by Rule 103, mistakes and misunderstandings are not likely to occur. For instance, do not say to an operator, "Tell conductor to couple with No. 8 and go under their superiority," but send a message.

Should it be desired to relieve a crew from stopping to check a certain train register, issue a train order; ordinary messages may be unreliable and not say what you intended. The train order may say, "No 8 need not register at C. It checks clear." If register is not clear, it would be best to allow the train to be delayed rather than say register will be clear after a certain train is met, or is registered as having arrived.

If desire to advise a train that a short-run train, or one going on a branch, has arrived at the end of its run, or

the junction, give it a 19 train order, not a message or verbal information. In such cases should there be no train register where the regular short-run train completes its trip, or at the junction, an excellent practice is to have such trains registered on a train register located at some station before such point is reached and where all trains usually stop to register. If entered upon this register, require the operator registering the short-run or branch train to repeat the register, not instruct him verbally and fail to check his work; nor should a train order be issued to register a train and not also ascertain that such train is correctly endorsed upon the register.

#### **OPERATOR ABSENT OR PRESUMABLY ASLEEP.**

When an operator has been uptown and, upon returning, explains that he entered a building, or was where he might not have heard a train pass his office, or, if at night you call for sometime before being able to raise an operator, or if he advises you he has been asleep, do not attempt to restrict the train in question at his station. Wait until it is positively located, regardless of delay, if it would have been possible for the train to have passed. The report at the next office in rear may be wrong and the train may have passed. Again, I repeat, take no chances whatever in such cases.

#### **RESTRICTING TRAINS WHERE VIEW IS OBSTRUCTED, STORMY WEATHER, BAD RAIL, ETC.**

When a station is so located that a clear view cannot be had by a train which it is desired to restrict at the station; or where it is difficult to stop; or the train is not scheduled to stop; or if the weather conditions be such as

to cause the rail to be unreliable; or if on account of air brake failing, an accident might result by reason of the order-signal being near the switch which it governs; take extra precautions, instructing operator to employ means in addition to the order-signal to insure such train being stopped, and in time. If practicable, issue the orders for all trains concerned before they arrive at such places. In extreme cases, do not complete the order for the other train to go to such station until the train which receives its first notice of restriction at the meeting point has been stopped. Also, when a freight train is on short time and is seen to be making every effort to reach a station for a fast passenger train which is not scheduled to stop, and it is known it will find it difficult to clear immediately upon its arrival, and it may not arrive at such station in time to flag the superior train, advise the crew of the conditions and instruct them to "lay back."

Should there be more trains at a station than can clear, waiting for some exceptionally fast train, and the view or grade be such as to make it doubtful if this fast train can be flagged in time to stop at the proper place, do not hesitate to stop such train before reaching the station where it must be sawed out, to advise it of the situation.

### **STORMS.**

Watch closely the condition of the weather, and when it is of such severity as to make it difficult for crews to see, take extra precautions; do not rely wholly upon the order-signal to stop trains; instruct operators to flag them by hand, using torpedoes, red fusees and lantern. Require operators to keep you posted as to severity of storm. Snow sometimes drifts about an order-signal in such manner as to cause misunderstanding by covering

the blades, or obscuring the light. Fixed signals should be moved occasionally during sleet storms, or they may freeze and cannot be changed at will. If a heavy wind be imminent, see that cars at stations within your jurisdiction, likely to blow out on the main or passing tracks, are secured. Agents and operators may fail to perform this important duty unless reminded.

If a storm be impending which may cause wires to fail and delay trains at initial stations, instruct operators in writing how many sections to start, if wires do fail, or prepare for the emergency by train order. Especially should this be done in case passenger trains are likely to be delayed and there is to be more than one section. At least superior trains may be provided for in this manner and kept moving.

Do not defer until too late giving delayed time of a passenger train to freights. Wires may fail, or the train which is likely to need the time within an hour may not reach another telegraph office, as you have reason to believe it will; may break a drawhead, or get a car off the track, and go in on some blind siding before the telegraph office where the time-order is placed for it is reached. Get out the time as early as practicable.

#### **HOW TO COMPLETE ORDERS IF WIRES LIKELY TO FAIL.**

If wires are likely to fail on account of fire or storm, "complete" may be sent to a 31 order before signature of conductor is received, or sometimes a 19 order may be used, to avoid delay. You must transmit the complete and the time, however, not instruct operator to place on order after obtaining signature, should wires go down. There is no great risk in thus handling such matters when

only one order is awaiting a train and assurance is given that "stop" is displayed, but when more than one order is issued for a train at a station the practice cannot be strongly recommended in every instance. Dispatchers are enjoined to exercise great care, talk with operator concerning the matter and know him to be a thoroughly reliable man. Do not say to operator, "If wires fail, complete Order No. 10 after conductor has signed it," but transmit the complete, and the time, in the regular manner and fully instruct him to obtain signature and then make the delivery.

#### **WRECKS AND WASHOUTS.**

Even though told by the conductor that he thinks he can rerail or repair a heavily loaded car which is broken down and has the main track blocked between stations on a busy single track road, it is best to start a wrecker.

It is a mistake to fill all sidings near the wreck with unimportant freight trains; reserve a few sidings for the more important trains which must be passed when track is cleared.

Until an officer takes charge, execute as much of the following as may be necessary, and about in the order named: Hold conductor of wrecked train at telephone, or telegraph office, until instructions can be given him about taking cars still on the track to a siding, and reporting at a certain hour and place to take the wrecking crew to wreck, so such crew will not be delayed by having to flag. Get as full a report as possible; how many persons injured, position of engine and cars, contents of cars, number of rails and ties needed, whether or not track can be built around wreck, etc. Call surgeon; wrecker; operator to work at wreck; officials, and section and bridge men.



Clear the road for surgeon's train, or wrecker. Stop dead freight trains at water stations. Hold trains having stock or perishable at points where such freight can be properly cared for. Stop passenger trains where meals can be procured, or such trains can, if necessary, be detoured. Notify terminals to cancel all calls for trains. Advise foreign roads of trains to be sent via their line, so pilots can be arranged for.

When notified that track will be cleared at a certain hour, begin moving the important trains up as close to the wreck as is practicable, arranging with wrecking crews to allow all going in one direction to come to wreck and follow the wrecker into a station, where you should have the opposing important trains waiting. Begin in time, so steam will be gotten up, passengers collected, and all other matters arranged so there will be no delay in getting trains to moving the moment the track is ready.

Never allow a wrecker, or a train having men or material to repair a washout to wait one minute on you while giving orders to other trains; such trains must have preference and must not be compelled to flag for some miles, if it be possible to give them right over trains.

#### **HOW TO WORD ORDERS WHEN STARTING TRAINS BEFORE SUPERIOR TRAIN ARRIVES.**

In starting inferior trains, work extras, trains from branches, etc., when it is desired to have them wait for an extra or other train that they may not know of, or might overlook at the starting point, word the order thus, "After Extra 30 north (or No. 16) arrives at A, Eng. 20 will run extra A to Z." Should the train thus cautioned, once in a great while, afterward receive an

order to meet the train named at some other station, it will hardly be contended that the words "instead of" must be added to such order, nor will it be claimed that if the train is met at some other point, the running order is not then in effect, on account of the word "after" being inserted. However, rather than forego this valuable form of notice, it would be better to add "instead of" to copy for the train being started, or the new meeting order may also give instructions to run extra, and the former order be annulled.

When all orders necessary have been issued and a train is to wait for some overdue train, or there are trains nearby for which it is known that it can proceed only a station or so, it is good judgment to suggest to the conductor that he must wait for or can probably make only a certain point for such train. More especially is this safeguard valuable if the train in question be due to arrive some eight or ten hours before the crew is called out of bed to go out, and such overdue train is generally on time. A dispatcher who takes these precautions, which are not absolutely incumbent upon him, is esteemed a valuable employe.

It is quite a common practice to permit an operator to advise a conductor verbally of overdue superior trains when starting on a trip from a station where there is no train register, or to send such conductor a message giving this information, but this method of handling such matters is extremely hazardous. Operator might fail to call attention of the operator relieving him to a section long overdue, or the information given by dispatcher may not be written or reported correctly. The following form of order is recommended: "Eng. 20 will run extra E to Z. All trains now due at E have passed except ——."

### **STARTING FROM INTERMEDIATE STATIONS WHERE VIEW IS OBSTRUCTED.**

When a train is started from an intermediate station where there is not a clear view to rear, advise it of any following train which might arrive at such point before the train which is being started can get under full headway, otherwise a rear collision may result.

### **TRAIN RAPIDLY GAINING UPON ANOTHER.**

If a train is noticed running rapidly and gaining upon another which left the initial station some hours ahead of it, and which, under the rules, is not required to clear the time of the following rapidly running train, advise of proximity of train ahead; also, give notice when possible of a train ahead which has work to do at an unusual place where it is difficult to stop, or where there is not a clear view, especially when the rail is bad, or the grade is heavy and trains descending.

### **REPEATING ORDERS.**

Many orders have been delivered without being repeated. There is especial risk when the "X" response is used; do not dismiss the matter at that time, but follow it right up and require operators to form the good habit of also repeating orders at the earliest opportunity. Under-score orders so carefully in record-book that all repetitions can be readily counted and errors of this nature be more fully guarded against.

### **ANTICIPATING THE NEEDS OF TRAINS.**

Anticipate the needs of trains and have orders ready for them when possible, even though this may sometimes

cause you to issue orders which may afterward have to be annulled because trains had work to do of which you were not aware, or fail to make as good time as expected. This is especially desirable at the time of going off duty; endeavor to have your work so well in hand at that time that the relieving dispatcher will not immediately have to begin issuing orders. He needs at least a half-hour to acquaint himself with the movement of trains, the orders they hold, and to otherwise get his bearings.

Work extras, and others, are sometimes delayed unnecessarily by failing to give them orders until an opposing train for which they must wait has been reported as arriving. If all necessary orders are issued prior to the arrival of the train to be met at such station, they can be delivered to the engineman and the train move to departing switch, and a delay of ten minutes or more be prevented.

#### **MAKING TRANSFER TO RELIEVING DISPATCHER.**

Dispatcher going off duty should enter in record-book the individual numbers of all outstanding orders, without stating their contents, and relieving dispatcher sign such transfer. Dispatcher being relieved should also explain verbally the position of trains, work they have to do, and their probable needs; call attention to trains which are called, ordered, or should be ordered; and the weather conditions. If stormy or foggy, explain what has been done in spacing trains, or otherwise protecting them; and also give a brief synopsis of the general conditions prevailing that may be unusual. I do not regard the practice of writing a synopsis of outstanding orders as entirely safe.

**KEEP UP THE "O S" OF TRAINS.**

A dispatcher cannot hope to move trains safely and satisfactorily unless their movements are followed closely. Where there are train registers, require operators to state when reporting sections whether or not conductor registered signals.

**INSPECTING DIVISION.**

Go over your territory at least once in six months (preferably in spring and fall) and oftener if practicable. Ride on passenger and freight trains, both by day and night, and on engines part of the time. Note the location of order-signals with regard to the switches they govern, grades, view approaching and about stations, sidings, etc., so you can judge pretty accurately as to delay or risk when orders are placed at certain points.

Instructions have been given which can be accounted for only by dispatchers not being familiar with their divisions. Without a clear knowledge of the physical conditions, an inferior train may be directed to hold the main track, or pass the place where the superior train is required to stop, under the impression that the siding is so situated that the order will be delivered to the superior train at the meeting point in ample time, when such siding may be passed before the office is reached.

A superior train has been held to get an inferior train to a station on a heavy grade, when to have permitted the inferior train to wait at some nearby point would have resulted in less delay to both trains, as the inferior train could then make a run for the hill. A train has been stopped to give it five minutes more time on a superior train, when, if left alone, it would have been better off.

Or, orders have been given to a train to back in on a siding when, on account of tonnage or grade, compliance with such instructions would have been impossible.

Every dispatcher's office should be supplied with a book, showing location and length of all sidings, cross-overs, direction switches face, offices, and coal and water stations.

#### **TRAINS TIED UP AT BLIND SIDINGS.**

Anticipate the needs of sections ahead of those given help and send orders to them in care of a following section, if necessary, to be delivered to sections ahead if overtaken at a blind siding, delayed, because unable to go farther for the train the following sections are helped against beyond such blind siding.

If second No. 8 is given right over No. 1, E to A, and finds first No. 8 at B (a blind siding) disabled, without help against No. 1, it will be seen that an exchange of identity would not permit the train able to move to advance, without flagging. The right, meet or time-order should have been sent to first No. 8, in care of conductor of second No. 8, anticipating just such a condition; then No. 1 can be released by conductors exchanging identity and the conductor of the disabled train accompanying first No. 8 to A to bring No. 1 to B.

#### **FIXING MEETING POINTS AT BLIND SIDINGS.**

If trains are to be met at a blind siding, endeavor to secure signature of the conductor of the superior train before permitting the inferior train to act on the order, or have another telegraph office between the superior train and the blind siding, to enable the superior train to be again restricted, should there be a failure in the

delivery of the order to it at the station at which it was originally addressed. In such cases, use the "wait" form of order, instead of the meeting form, if the inferior train can be gotten to the blind siding by such form, stating a time likely to expire before the superior train can reach the blind siding. It is much safer practice.

It is now well understood that a train at a blind siding may be restricted for another, the same as if it were at a telegraph office, but "complete" must not be given for the train which is being run to the blind siding until signatures of the conductor and engineman of the train restricted at the blind siding are given to you, after they have been placed on the order sent to the crew at the blind siding to sign. Should a fast train come to a blind siding with an order to be signed by a train at such siding and find that the engineman of such train had gone some distance on a business track diverging from the station, it would cause unnecessary delay to the train in whose care the order is addressed to go after the engineman, and it is not expected that this be done. If assurance is given by the conductor at the blind siding that he will not allow his engineman to leave such point until the order is delivered, dispatcher may act upon receipt of such explanation and only the conductor's acknowledgment.

Use form 19 when it is desired to send helping orders to another train, in care of some person, either at a blind siding or when train helped is out of reach at a telegraph office, as such orders can be delivered with less delay than those on the 31 form.

## RULE 82.

Old code Rule 82 reads, "Regular trains twelve hours behind their schedule time lose both right and class, and can thereafter proceed only by train order."

The latest revised code Rule 82 reads, "Time-table schedules, unless fulfilled, are in effect for twelve hours after their time at each station.

"Regular trains twelve hours behind either their schedule arriving or leaving time at any station lose both right and schedule, and can thereafter proceed only as authorized by train order."

The old rule is as fully explained as any one can explain it in "Rights of Trains on Single Track." The new one is much simpler, as it makes a distinction between a *schedule* and a *train*. It was not thought that any one would ever misunderstand the new rule, so no reference was made to it in the first edition of this book; but as several of my correspondents do not seem to grasp the exact application of the rule, will explain it:

If No. 1 has but one time at a station and its crew flags in, twelve hours or more late, or after having arrived at a station they become twelve or more hours late, they lose their authority to use the schedule and all of their train orders become void. But the *schedule* may be less than twelve hours late at some station in advance and therefore still in existence from such station. Dispatcher may run this crew extra until it becomes less than twelve hours late on No. 1's schedule and then authorize them by train order to again assume it; or he may give the schedule to any other crew, or annul it, without necessarily having to advise the crew which lost it.

Should No. 1 have an arriving and leaving time at a



station and flag in dead, or become twelve hours late on their *arriving* time while at such station, such crew then loses right and schedule. Should the schedule not be twelve hours late *leaving*, dispatcher may authorize this crew, or any other, by train order, to use the unexpired part of the schedule, as previously explained. Do not overlook re-issuing all train orders necessary for the crew which is given the schedule to have.

The words "and can thereafter proceed only as authorized by train order" mean that the crew of the dead train may be run extra, instructed by order to **again** assume the unexpired part of the schedule which they lost, or run on some other live schedule.

### THE 19 ORDER.

As far as the order itself is concerned, there is no difference between the 19 and the 31. All train orders must be respected whether they have or have not been receipted for. There is a difference, however, between the two forms until delivery is made: The 19 order ought to be confined to movements, where, if there should be a failure in the delivery, only a delay might result. The 31 form is the proper one to employ when it is necessary to know that the order has been received. The code does not confine the use of the 19 order to only helping movements, but there seems to be at least a tacit understanding that it should not be used to restrict a train. Some companies permit a 19 order to be sent to a superior train, restricting it for an opposing inferior train, if issued for the superior train before arrival at place of meeting or waiting and the same order is also addressed to the operator at the point at which the superior train is to meet or wait for the inferior train. The 19 thus used is

unquestionably safer practice than to simply give the superior train a 31 order before arrival at place of meeting and not include the operator at such meeting point, as, in event of the 31 order being afterwards forgotten, a collision might result, while if the operator is included, the order-signal at "stop" at the place of meeting or waiting should of itself be sufficient to prevent an accident. The order-signal at stop at the meeting point would also prevent the inferior train from forgetting the superior train after being given an order to meet it, or, should a meeting point be fixed between extras, one might forget the other and pass the meeting point if order-signal is not at stop at such point to act as a reminder.

I have had twenty years' experience with the 19 order and always gave it to the superior train before arrival at place of restriction, when the operator at the meeting or waiting point also had the same order completed for him. It must be understood that should the switch where the inferior train is to take the siding at the meeting point be so located that the superior train will pass it before reaching the office, the superior train must be given a 31 order, instead of a 19, before arrival at the meeting or waiting point, as the "middle order" then affords no protection whatever, not being delivered to the superior train until after having passed the switch where the opposing inferior train takes the siding. There may be a failure in the delivery of the 19 order to the superior train before arrival at the meeting point and operator neglect to so advise dispatcher. Nor would it be proper to depend on a 19 order when the superior train is thereby directed to take siding and meet a train, or there is a time-table foot-note requiring the superior train to always take the siding for such inferior train at that par-

ticular station, even though the 19 order be also addressed to the operator at the meeting point and given to the superior train before arrival at such place.

Some dispatchers are under the impression that when it is impossible to give the superior train a copy of the meeting order before arrival at the place of restriction, it is safe to address the order only to the operator, or to the operator and the superior train, on the 19 form. In such cases, the 31 form is the proper one to use and the order should always be addressed to the superior train, for the reason that more than one order may be in effect at such station and the operator overlook this particular order and clear the superior train on some other and fail to hold them for the inferior train in question. When orders must be acknowledged, dispatchers can often prevent such oversights.

I regard the 19 form as the proper one to send to the superior train, before arrival at the place of meeting with the inferior train, only when the superior train is to hold the main track and will receive copies of the same order at the place of meeting or waiting in ample time to stop before reaching the switch where the opposing inferior train must take siding.

If the operator at meeting point is not included, the superior train should be addressed on the 31 form. Of course the inferior train may be given the same order on the 19 form. The forms may be used in any manner desired; that is to say, the 31 may be issued for the superior train and the same order may be given to the operator at the meeting point on the 19 form, or certain trains may be given the 19 order and the same order be addressed to operators and other trains on form 31. In fixing a meeting point by using only the 19 form,

generally the operator at the place of meeting repeats first, then the order is repeated by the operator who receives it for the superior train. Upon receipt of these two repetitions, "complete" is given for these operators at the same time; then the operator who holds the order for the inferior train repeats and is given complete. In case of extras, it is best to complete the order for the operator at the place of meeting and for the extra on the road, before giving complete to the extra being created.

What appears to me to be some of the proper uses of the 19 order follows: It may be addressed to a train at the train-order meeting point, changing the place of meeting to some station beyond, even though the meeting point in advance be a blind siding, provided, if changed to a blind siding, the train restricted received the order before arrival at such telegraph office; to authorize a train to run extra or work extra, and the order may also contain restricting instructions when such extra is to receive only the one order at the point where created; to create sections, except that there are times when it is necessary to direct a train by 31 order to display signals; to pass a train by another; to annul a schedule, except that when the train is already on the road it must be given a 31 order; to annul an order which an operator holds for a train not necessary to deliver; and for all helping movements. Exception may be taken to the 19 being given to a train, advising that another train will pass it, but it does not seem unsafe when Rule 99 is recalled. Observing the train pass is of itself a safety-making factor. Should an inferior train be run ahead from some station in advance, and therefore not be seen by the superior train, form 31 is the proper one to use to advise the superior train of a train running ahead on

its time. Form 31 should be employed when a train is directed to run late, even though the time be given only to inferior trains moving in the same direction.

The 19 form is proper for cautionary orders where but one order awaits the arrival of a train and it is known that the order-signal is displayed at stop. Should there be more than one order, the 31 form must be used to advise of a broken rail, unsafe bridge, or similar conditions exist which might cause the train to be wrecked should there be a failure in the delivery of the order.

Avoid sending a 19 to a train at a station where a 31 is also awaiting the same train, as operator might deliver the 19, which is generally torn off at once and hung up, and overlook the 31, which must remain in the book of manifold on table awaiting signature. The conductor must sign one 31, so there would be little more delay and much greater safety in requiring him to sign all 31's.

In theory, the 19 is about as safe as the 31 order when only one order is awaiting a train and it is known that the order-signal is at "stop," as it is difficult to imagine a condition in which a train would receive the 31 form and not the 19 when there is but one order awaiting it. The greatest risk in the use of the 19 form is when there is more than one order for a train at a station: one might be delivered and thus clear the train on the order-signal, while others could be overlooked. This is not likely to happen when the 31 form is used exclusively, as dispatcher would not permit operator to fail to secure signature to all, and after signing orders it is reasonable to assume conductor would demand all he had signed, should operator forget to deliver all. Should there be only one order awaiting a train,

the 31 form has one cardinal advantage over the 19: when operator reports the train as departing, without having sent signature of conductor to the 31 order which was awaiting such train, there still may be time to annul the order for the inferior train, while if a 19, and operator should fail to advise dispatcher that the order had not been delivered, dispatcher would assume that it had been.

Even at block stations where rules require operators to remain in offices to hold block-board to "proceed," the 19 form of order will be found advantageous; there will be no delay waiting on operator to send signature and receive complete.

The 19 order is a material help to dispatchers, inasmuch as it is completed and ready to be delivered without stopping trains, and also prevents their being constantly interrupted by operators "breaking in" to send signatures.

The author has no recollection of a collision resulting through the use of the 19 order where the operator was addressed at the place of meeting or waiting and the order was also sent to the superior train before arrival at such point; but there is record of many failures to wait for trains, after acknowledging instructions to meet them, because such orders were forgotten and there was nothing displayed at the meeting or waiting point to remind conductors and enginemen.

#### **THE MIDDLE ORDER.**

Use the middle order when possible. I have more confidence in its effectiveness as a preventive of collisions than any other device within the reach of railroad companies whose financial condition will not permit large expenditures for something better. Train dispatchers

cannot do their company a greater service than by exerting every effort to secure the adoption of the "middle order" method of handling trains.

#### **RULE 219.**

"Rule 219. Unless otherwise directed, an operator must not repeat or give the 'X' response to a train order for a train which has been cleared or of which the engine has passed his train-order signal (at proceed), until he has secured the signatures of the conductor and engineman to the order."

While this new standard code rule clearly outlines the duty of operator and is one for which he will be held responsible in case of a failure to hold a train until orders are delivered to it, still it is a matter that requires some watching by dispatchers, especially when an operator is employed from another road where the requirement as to securing signatures of conductors and enginemen may not have been prescribed by the rules of such company, or when working with an operator of limited experience. Question him as to whether or not he actually has signatures upon the order, particularly that of engineman, should you have reason to believe, by reason of signatures being sent to you immediately after operator repeats an order, that he is not complying with the rule. A great many operators are under the impression, in such cases, that they have a train held when only signature of its conductor is placed upon the order, or they sometimes judge a train can be safely held by displaying the order-signal at stop a second time, if engine has not passed the signal. Inexperienced operators do not seem to realize that a conductor might get left, or that engineman may go to some switch beyond that used by the inferior train, to take water, or pick up a car.

Should the conductor not be available at the moment and you are in a hurry to restrict the train, engineman's signature upon the order may be regarded as sufficient to prevent such train from disregarding the restricting order, but follow the matter up and secure signature of conductor as quickly as possible. "Complete" is given upon receipt of conductor's signature and is written upon the same line of the order bearing his name.

#### **ADVISING CREWS THEY NEED NOT PROTECT.**

Do not send a message or advise crews verbally that they need not protect their trains; such instructions may be misunderstood. This is a matter that should be cared for by train order. Give right over all trains, or an order reading: "All southbound trains will wait at B until No. 15 arrives at C," in case it is desired to relieve the crew of No. 15 from protecting against following trains while unloading ballast or doing similar work between those stations. Of course, this order must also be addressed to all trains over which right is given.

#### **INSTRUCTING TRAINS TO FLAG FROM OPEN TELEGRAPH OFFICES.**

Do not instruct a train verbally to flag from an open telegraph office. Send a message, or, still better, issue train orders, when practicable. If you have been in the habit of instructing verbally, a crew may sometime take it upon themselves to flag without authority and cause a tie-up. For instance, first No. 14 has an order to meet extra 20 south at C, and is waiting at C to let No. 4 pass. Extra 20 south was expected to make C for No. 4, but only reached B, which is a blind siding. If then first No. 14 were to flag to B on No. 4 the extra would be tied up



at B for all following sections of No. 14. The crew of first No. 14 should have been instructed by message to flag on No. 4, and help against the second section of No. 14 sent to the extra in their care.

#### **INSTRUCTING OPERATOR TO CHANGE ORDER-SIGNAL TO PROCEED.**

When an operator has an order for a train, he may be instructed to change order-signal from stop to proceed, to allow a fast train for which there are no orders to pass, provided there are no trains at such station at the time which are affected by the board. Instead of permitting operators to do this without any understanding whatever with the dispatcher, as is the case with some companies, it is best to require the dispatcher to handle the matter so he can watch it closely and see that operator again displays "stop." Should there be a blind siding between telegraph offices and the train restricted be at such point, or can come to or possibly pass the station ahead of the train it is thought to be following, it is then best to allow all trains to be given a clearance card on the order-signal, and not attempt to change it to proceed.

At block offices, do not instruct operators to fasten block-signal to "proceed," if contrary to your rules, and take orders down and deliver to trains without stopping them. Trains must stop for their orders at such stations, unless there be some one helping the operator who can be sent down to platform to make delivery while operator remains in office to hold the block-board at proceed.

Some officials may not think it is advisable to change an order-signal, which normally indicates proceed, to "proceed" to allow a train for which there are no orders to pass, but the practice was followed by the writer for

twenty years on a busy single track road where the middle order was used, and it is being allowed by many companies at the present time, without any accidents resulting therefrom, but with decided advantages in the movement of trains. Advent of the middle order necessitates such practice. A little missionary work on the part of dispatchers may result in securing permission to so handle the matter.

#### **GIVING TRAIN SIGNAL TO HOLD MAIN TRACK AT STATIONS.**

Should it be desired to bring a train to office on main track, instruct the operator to give the necessary signal. It is not safe to delegate this duty to operators without specific instructions in each case, as they might signal a train to hold the main track when it held orders of which they were not aware that would require it to take siding.

#### **WHEN AIR BRAKE FAILS.**

It would be difficult to handle the present heavy trains by hand-brakes. Keep this in mind and should air fail on an engine, make every effort to secure another engine which has air, to move the train. If this be impracticable, and the train must for a time be forwarded by use of only the hand-brakes to control it, take the case in hand and so fully protect the crew that an accident will not result. Do not fix a meeting point with an opposing train on a descending grade and risk the non-air train being able to stop, should the opposing train fail to reach the meeting point and get on siding before the arrival of the train not having air. Hold the non-air train at a station until it is known it has a clear main track down hill. Nor should you attempt to restrict the non-

air train at a station where it is difficult to stop, or where the order-signal cannot be seen in ample time to stop before reaching the switch to be used by the train it is to meet. It would be much better to avoid moving the inferior train until it is known that the train without air has been stopped. Except on an ascending grade, should not allow the train having no air to follow another train closer than from one open telegraph station to another, as it might collide with the train in advance. Even though the train ahead be protected, flagman will hardly go back far enough to insure stopping a train of this character in time.

#### **DOUBLING.**

Watch trains that are required to double hills and do not allow a misunderstanding to arise through failure to observe or display markers, or by leaving a part of train on siding at foot of grade. If desire to have the crew go up with the front portion representing the entire train, instruct conductor to place the rear of his train on siding, leaving a man, if possible, to advise following trains that the cars and caboose with no markers displayed is not a part of a train; and put markers on the last car of the front portion being taken up the hill. When ready to return for the rear part, give the crew an order to run extra. Not every conductor knows just how to handle such matters to avoid delaying trains waiting at the top of hill, or a following train which may come up behind train which left its rear at foot of grade. Should it be necessary to double at night, it will not be practicable to remove marker lamps from caboose and place on the last car of front portion, on account of there being no brackets on such cars. In such cases, the marker lamps should be

placed in caboose, or extinguished, and a red lantern used on the rear car of the doubling portion, or the conductor may advise interested trains that his train has arrived complete. See that all fully understand that markers must be removed from caboose, if displayed on the front portion, or if the first part of train is to represent the entire train.

Should a work extra desire to go to some station with only the engine, to meet a train, markers should be removed from caboose, if left at some other station or sidetrack, and displayed on its engine. Otherwise, there may be delay, or confusion that may result in an accident.

#### **RUNNING TRAINS AGAINST THE CURRENT OF TRAFFIC.**

It is by no means always safe to move trains against the current of traffic on double track. Trains moving in the same direction often back over on such track without protecting as fully in both directions as is required, and it is rarely practicable to advise yard crews, section-men and others vitally concerned, before the movement is to be made. Where there are many miles of double track in one place, running trains in this way is quite common and forms of order are provided for such movements; but where there are only short stretches of double track and the practice is of extremely rare occurrence, it is safer to give instructions to proceed under protection of a flagman.

#### **RULE 96.**

When signals are taken down at an intermediate telegraph station, see that operator displays his order-signal at stop and notifies opposing interested trains and, in addition, if necessary, you should advise trains affected

before they reach such station. Consider whether the train for which signals were displayed will come to the order-signal on main track, and, if so, an opposing train might collide with it at the station if view is obscured by weather or other conditions, even though the order-signal be displayed at stop. Trains often run partly past an order-signal before stopping, understanding that time applies at the place where inferior trains enter the siding. Guarding against accident in cases where the train for which signals were displayed is not advised that they are to be taken down, until the point where they are ordered down is reached, is principally a matter to be looked after by dispatchers, except at regular registering points, or where trains in both directions will not hold the main track.

Many companies require only trains of the same class, and inferior trains, to be advised. This is sufficient protection in practically all cases, but, should a superior class train be instructed to meet an inferior class train which is in sections, without sections being mentioned in the meeting order, as allowed under Rule 218, it will be seen that then the superior class train must be advised that signals were taken down, otherwise, seeing the inferior class train on siding without signals displayed, there would be a chance for a collision with the following section not yet arrived. Knowing this danger, it is doubtful if a dispatcher would ever permit such a misunderstanding to arise.

Signals should be displayed only to telegraph stations or to points where train registers are located. If impossible to avoid displaying to a blind siding, advise the train taking down signals that you will notify opposing trains, so they will not have to leave a brakeman.

## DISPLAYING SIGNALS ON SHORT-RUN, BRANCH TRAINS, ETC.

It is not good practice, where sections are seldom run, to display signals for a following section on a short-run, branch or local train, without in some manner advising other interested trains, especially where train registers are not provided, and the section for which signals were displayed is some hours behind section in advance. An opposing train may, without warrant, assume a passenger train has arrived when its equipment is seen at the end of its run, and neglect to stop to ascertain whether such train displayed signals, or operator may fail to stop all opposing trains to advise that signals were displayed. Also, there may be equipment at the station belonging to an extra train which might mislead. It would hardly be accounted safe practice to instruct a branch train, or a local freight which had not displayed signals for possibly a year, to do so, without taking the reasonable precautions that will suggest themselves, to insure that other trains concerned are made acquainted with the fact. A word by way of advice may prevent such signals being overlooked. It is doubtful if it is the best practice to instruct a first-class train which has not been run in sections for years to display signals for one trip, or a part of a trip. Engines are not in the best shape to keep up signals in such cases, the regular engine not having occasion to use such flags or lights for so long may find them in bad condition and unreliable. Also, bear in mind that engines of local trains often leave train at a station and go some distance from main track to do work, and their signals might easily be overlooked.

Freight trains should not be run as sections of a passenger schedule. When run as the first section, engine-

man of the passenger train running as the second section does not feel warranted in passing any freight train having green signals displayed on its engine without stopping to ascertain its identity, fearing that it may be the first section of his schedule. Or, a freight train may have orders over the second section of some opposing superior freight train, and be waiting for the first section, and when the freight train running as the first section of the passenger schedule passes, it may be taken for the first section of this superior freight schedule, and, upon arrival of the passenger train, such inferior freight might pull out and collide with the first section of the superior freight train for which it should wait.

It encourages freight crews to run faster than is sometimes safe, because braking power is not always as reliable or effective on freight cars as that applied to passenger equipment.

Also, an operator might easily be misled and change order-signal to proceed to clear a freight train which is running as a section of a first-class schedule, while holding an order for such first-class train.

#### **FOREIGN CREWS USING YOUR LINE IN AN EMERGENCY.**

When, in an emergency, it is necessary to run foreign crews over your line without pilots who are familiar with the road and its rules and time-table, give such crews additional advice, assistance and information that may be necessary to enable a safe run to be made. If only for a short distance, instead of furnishing such crews a time-table and issuing a number of orders which may be clear to you, but not to them, give them a time-table and an order to run extra with right over all trains, or make them

a section of a first-class schedule. If this be impracticable, at least incorporate in their running orders necessary information concerning overdue trains which have passed, or must be waited for at the starting point.

#### **CLEARING TRAINS AT INITIAL STATIONS.**

Do not depend upon operators reporting trains for orders before clearing them at initial stations and authorize other trains to move against such trains on the supposition that regular trains cannot start without your authority, because they may be cleared, if only the one regular train to run on the schedule, or where operators are authorized to run trains in sections for dispatcher, without operator consulting dispatcher. Ordinarily, operators should, of course, call up dispatcher when a train reports ready, to allow final instructions to be given it, if any; but if he is unable to raise dispatcher, on account of wire trouble, or if dispatcher is busy, it is not required of operator that he delay the train to give notice that it is ready, if no orders awaiting it which must be signed and completed before it can be cleared.

#### **TIME-TABLE CHANGES.**

The latest revised standard code Rule 4 reads as follows:

“RULE 4. Each time-table, from the moment it takes effect, supersedes the preceding time-table, and its schedules take effect on any division (or sub-division) at the leaving time at their initial stations on such division (or sub-division). But when a schedule of the preceding time-table corresponds in number, class, day of leaving, direction, and initial and terminal stations with a schedule of the new time-table, a train authorized by the preceding time-table will retain its train orders and assume



the schedule of the corresponding number of the new time-table.

"Schedules on each division (or sub-division) date from their initial stations on such division (or sub-division).

"Not more than one schedule of the same number and day shall be in effect on any division (or sub-division)."

This rule may prove to be invulnerable, but the author overlooked one important fact—the mental incapacity of many of the persons who are to be governed by it to quickly and safely analyze its exact meaning and application. A slight oversight in any one particular might cause a train to assume the schedule of the new time-table, while other inferior trains may conclude that, under the rule, such train may be disregarded from the moment the new time-table takes effect. The times when there will be a difference in class, direction or initial or terminal stations are too remote to constantly burden the mind with such exceptions. Besides, what possible difference can it make if a train be changed by new time-table to a higher or lower class? Orders are addressed or refer to train numbers, and the rules clearly provide for superiority at places of meeting, so such trains should retain their orders and run by new time-table, assuming the class which is prescribed for them by such table. And as to "direction" and "initial and terminal stations," can we reasonably hope that conductors and enginemen will always carefully check every new time-table to ascertain whether or not there has been a change as to this? It is extremely doubtful if they will do so with the precision necessary to make the rule perfectly safe in all of these particulars.

It should be understood that the word "day" in the rule means the same as "date," but there can be no ques-

tion about the rule being clearer when the word "date" is inserted instead.

Believing the rule susceptible of clarification without materially affecting its other excellent provisions, in ordinary practice at least, the following curtailment is suggested:

"RULE 4. Each time-table, from the moment it takes effect, supersedes the preceding time-table, and its schedules take effect on each division at the leaving time of such schedules at their initial stations on such division. But when a schedule of the old time-table corresponds in number and date of leaving with a schedule of the new time-table, a train due on the road by the old time-table will retain its train orders and assume the schedule of the corresponding number and date of the new time-table.

"Schedules on each division date from their initial stations on such division.

"Not more than one schedule of the same number and date shall be in effect on any division."

Of course, should a road be divided into sub-divisions, or certain dispatching sections be known as districts, this information may be added to the rule above without in any way interfering with the principles set forth.

Train dispatchers should bear in mind that it is their province to make everything clear, by annulling schedules, or issuing instructions that may be necessary in extremely aggravated cases, to avoid misunderstanding.

In considering the latest code Rule 4, understand that a train of the old time-table (spoken of in the rule as being authorized by the old time-table) means a train on, or due to be on, the road at the time the old time-table is superseded.

A schedule of any particular date is fulfilled, to any point, when the last section has arrived or departed, as the case may be.

Schedules which correspond in number must necessarily have a corresponding date, if they be daily schedules.

If a schedule of the old time-table has been fulfilled, annulled, or become twelve hours late at its terminal station on a division, it should be understood that a schedule of the same number and date is not in effect by the new time-table, even though due to leave its initial station after the new time-table becomes effective.

Aside from "class, direction, initial and terminal stations," it will be noticed that in the code rule, in order for a train to run by new time-table, it must be authorized by a schedule of the old time-table which corresponds in number and date, or become due to leave its initial station after the new time-table takes effect; and the schedule of the same date must not have been previously fulfilled, annulled, or become twelve hours late at its terminal station on that division.

In the rule suggested, there are two essentials to be considered by an authorized train of the old time-table in order to determine whether or not it may assume a schedule of the new time-table: must first ascertain whether its schedule has a corresponding number on the new time-table, and if it has, keep in mind the *date* the train was due to leave its initial point; then abandon the old time-table and assume the corresponding schedule of the same date on new time-table. If ahead of time, wait; if on time, or less than twelve hours late, proceed, respecting all train orders. If more than twelve hours late by its old time-table date, the train is left without a schedule, and all of its train orders, or orders relating to it, become void.

Omitting from discussion the additional provisions of the code rule, the following explanation may be regarded

as fully answering every question that is likely to be asked concerning the meaning of the rule:

(a) A new train cannot run until it is due to leave its initial station on each division after the new time-table has taken effect, because such schedule does not become effective until overdue at its initial station after the new time-table takes effect.

(b) Should No. 3 be due to leave A at 9.30 P. M. by old time-table, and a new time-table take effect at 12.01 A. M., scheduling it from the same initial station before midnight, it may, until its schedule becomes twelve hours late, assume the new time-table time either from its initial station, if delayed and not started, or wherever it may be on the road. It gets authority to do so because it is due on the road at the time of the change, and has a corresponding date at its initial station. Should it find it is going to be ahead of time by new time-table, it must wait at some station just before the new time-table takes effect and start from that point on time, not be caught between stations ahead of time.

(c) Should No. 3 be due to leave A at 9.30 P. M. and a new time-table take effect at 8.00 P. M., scheduling it from there at 7.30 P. M., No. 3 cannot then run until 7.30 P. M. after the new time-table has taken effect, because not being due on the road at the time of the change, the schedule does not take effect until its leaving time. Care should be taken, in such cases, to change the time-table at, say 7.00 P. M., so the train can run by new time-table, and also to prevent argument or misunderstanding. It is, of course, well understood that if No. 3 has not become twelve hours late, been annulled, or has not run on the same date by old time-table, and a new time-table takes effect at

8.00 P. M., scheduling No. 3 from A at, say, 9.30 P. M., such train may start at 9.30 P. M., its schedule becoming effective for the first time that day at that hour.

(d) Should No. 3 be due to leave A at 9.30 P. M. by old time-table, and a new time-table take effect at 12.01 A. M., scheduling it from A at 1.00 A. M., the No. 3 of the old time-table loses all of its authority to move the moment the new time-table takes effect, because more than twelve hours late on the schedule of the date it is authorized to use. The No. 3 due to leave A at 1.00 A. M. may start on time. In such cases the dispatcher may, of course, hold No. 3 at A and start it on the new time, or annul the No. 3 due to leave at 1.00 A. M. between its initial station and where the dead No. 3 is on the road, and instruct the dead No. 3 by train order to assume the corresponding schedule on the new time-table after it is overdue where the dead No. 3 is tied up.

There are train order complications which dispatchers and others must not overlook. Say No. 3 of the old time-table has an order to run one hour late and this time is given to other interested trains. When the new time-table takes effect at 12.01 A. M., the No. 3 due on the road is dead and all of its train orders become void, and, according to Rule 220, all orders held by other trains, relating to this train, become void. Inferior train must not get the impression that the No. 3 of new date, on new time-table, will run one hour late, or that any other orders in effect for the old No. 3 refer to a No. 3 of another date.

(e) Should No. 3 leave A at 2.00 P. M. and arrive at Z at 6.00 P. M., and a new time-table take effect at 7.00 P. M., scheduling No. 3 from A at 9.30 P. M., the No. 3 scheduled to leave at 9.30 P. M. cannot run on that date, because one schedule of that number and date has been

fulfilled, and there cannot be another. Of course, should No. 3 be late and fail to reach Z by 7.00 P. M., or the schedule be represented by sections, such train or trains as have life will transfer to the same numbered schedule after the new time-table takes effect, respecting the time of such schedule until twelve hours late thereon, because it was not fulfilled by the old time-table.

(f) Should No. 3 be due to leave A at 11.00 P. M., and new time-table take effect at 6.00 A. M., scheduling this train from A at 1.00 A. M., No. 3, due on the road, loses all authority to move at 6.00 A. M., because, at 6.00 A. M., on account of a difference in the time of the schedules on the old and new time-tables, the No. 3 due on the road finds itself 29 hours late on the schedule of the date it may use, and the only one it can use without train order authority.

A No. 3 cannot be started from A by new time-table until due to leave after the new time-table takes effect—that is, in this case, not for 19 hours, because, there being no train of the same date authorized by the old time-table, the (new) schedule does not take effect until its leaving time.

(g) Should No. 1's schedule become twelve hours late by old time-table, to any point, it is dead for good and all up to that point on that date, the same as though it had been fulfilled by No. 1 running upon it without displaying signals. If, afterwards, a new time-table takes effect and it be found that No. 1's schedule of the same date is due at some time thereafter that apparently concerns inferior trains, such schedule need not be again cleared, because, having once become twelve hours late on that date, No. 1 cannot be run by new time-table between the points where the old schedule became void.

Notwithstanding the claim that, under this new rule, there must sometimes be two schedules of the same number on a given date, it is difficult to imagine a possible case where there is any semblance of two the same day. Of course some sections of a schedule may be met by old time-table, and the others by the new table, until such schedule becomes twelve hours late; or an inferior train may have to clear No. 1 by old time-table, and again clear it by the new, but it is the same schedule and must be cleared until twelve hours late.

One of the brightest rule men whom it has been my pleasure to meet, writes me as follows: "I do not believe you will ever be able to successfully dispute the fact that we have two schedules of the same number and date to deal with. The theory of the new schedule being a continuation of the old, is disputed by the rule itself and all reference to these schedules indicate they are considered separate schedules, such as comparing one with the other, trains giving up one and assuming the other, annulling one and forbidding the use of the other, one becoming twelve hours late, etc. There is no disputing the fact that a schedule may be in effect and not be used; and it makes no difference how many are in effect if we regulate or restrict their use. In making the rule the mistake was made in saying unconditionally that only one schedule should be in effect, instead of adding the conditions—if one has been fulfilled, annulled or become twelve hours late, which are absolutely essential in order to use the rule.

"You will notice these conditions have been the essentials made use of in explaining the rule in nearly all of the above examples.

"I believe you would do a great service by acknowledging that under certain circumstances two schedules of the same number may be in effect on the same day and that each must be respected while it has life, then explain that the last clause or paragraph of the rule means nothing more nor less than that not more than one schedule of the same number and date shall be in effect on any division, *if one has been fulfilled, annulled, or become twelve hours late at its terminal point.*

"This would cover every condition, and to those who take the opposite view, it would not be misleading. I consider it our duty to acknowledge or point out the defects rather than to try to patch or cover them by theory, in order that all may be on their guard."

The more one studies the "date" principle and the last paragraph of the rule, the plainer the rule becomes. If these two provisions are kept prominently in mind, and the fact that a schedule once twelve hours late at its terminal becomes void for that day is also remembered, it is not likely that a collision will ever result through a misunderstanding as to whether a train may or may not run by new time-table on the date of change.

When a train is scheduled to run daily on both time-tables, no matter what changes may be made in its time, it will always have a corresponding date at its initial station. The crew of the train due on the road at the time of the change should then keep in mind that they must be less than twelve hours late on the time of the schedule corresponding with the date as indicated by old time-table.

If anyone desires to analyze the new code rule on purely technical grounds, they will find that it contains the following defects: It is so worded that a daily schedule cannot always be used daily, it being possible to change a time-table at an hour that will prevent such schedule being used on the day of change; it authorizes a train to sometimes



assume a schedule on a new time-table which appears to be invalidated by the first four lines of the rule; and fails to use the words "due on the road," instead of "authorized," the latter word not being understood by all to convey the same meaning. But as it is not likely conductors or enginemen will study the rule carefully enough to discover these defects, they may be said to be of no great importance.

Many of the questions asked concerning new time-tables are merely hypothetical and of such extreme rarity as to be of no practical value, except to test the rule for possible shortcomings.

Dispatcher should take receipt for new time-table by an order worded as follows: "I have new time-table No. —, taking effect — m., 190—." One acknowledgment is sufficient. If enginemen have conductors, it is not imperative that they sign train order acknowledgment for new time-table personally; conductors may be depended upon to deliver to enginemen copies of all orders received. If convenient for him to do so, engineman may, of course, sign such copies and receive a complete for himself.

Take receipt for new time-table from all persons who are concerned therein, giving especial attention to helper crews, yard crews who sometimes work under train orders, work train crews who may have tied up at an intermediate station over Sunday; and all crews from other lines using your road in an emergency, especially when you are unable to furnish such crews your own men as pilots. Also secure acknowledgment from all crews on the road who are not going to reach a division point before the new time-table takes effect; and permit no crew to start out on the road for at least three days after the change without obtaining their acknowledgment.

Set aside a few pages in your record-book, or a book used especially for this purpose and slow orders, to make record of acknowledgment.

#### **DIRECTING TRAINS TO RUN BY AND BACK IN.**

When possible, avoid ordering a train to "run by and back in" to meet a train. At best, it is unsafe practice. The train directed to pull by will do so without protecting against the train it is to meet, while this train may miscalculate distance and infringe upon territory necessary for the train to use to pass the switch to back in; may assume the train which is to back in has but a few cars, as it has been accustomed to having, while on this particular day it may have many more; or a train may be seen on the siding and it be taken for the train which is to back in, when such train may be one which made the station without help. The train on siding might further complicate matters by giving a proceed signal, assuming the approaching train is slowing down because not sure it is clear, and cause an accident with the train to be met, which may round a curve at full speed.

#### **GIVING RIGHT OVER ALL TRAINS.**

In giving right to a train over all trains, do not overlook trains going in the same direction, and also those which may enter the limits behind the train having the right order, and, finding it at some station, pass it. An opposing train may be on the main track at a station, and it be thought that there is ample time to secure its acknowledgment and get it on the siding before the train having right arrives at such point, but you may not be able to do so on account of inability to get hold of conductor as quickly as expected, or he may be slow in

clearing the main track after being advised of the order. Also, a train which is expected to arrive at a station within a minute or two may meet with delay and the train having right pass such point before its arrival; unless this movement is safeguarded otherwise than by merely having the order out at such station awaiting signature of conductor of the train over which right is given. Should wires fail at this particular time, an accident might result under circumstances similar to those referred to.

When such orders must be given, watch junction points within the limits and issue the order for trains at such stations, if it would be possible for trains to come from branches and run on main line, and the train having right be overlooked.

#### **GIVING FIRST NOTICE OF RESTRICTION AT MEETING POINT.**

When first notice of restriction is sent to a superior train at the place of meeting, and the conditions are such that the trains might therefore collide on the main track at such station, owing to location of order signal as it relates to the siding it governs, it is obligatory upon dispatcher to use a form similar to the following: "No. 2 gets this order and will meet No. 1 at E." However, it must be understood that information imparted in this manner does not compel the train which No. 2 is to meet to take the siding. In every case where a train is restricted and notice is not given it of such restriction until it arrives at the point at which it is held, and it is, by reason of this, on the main track when, by time-table, it should take the siding, and would have done so had the order been issued for it before its arrival at such meet-

ing or waiting point, you must give the train which is given orders over it instructions to take siding.

### **FILING ORDERS.**

It is unsafe to instruct all operators to file orders. Give thought to the experience of the operator and the probable result of a habit so formed that may cause them to sometimes file orders which are in effect, without instructions to do so, and an accident result through their having filed an order which you may understand was delivered.

The rules do not contemplate orders being filed; either they should be delivered or annulled. However, it will be seen that an order addressed to all trains, or certain trains, advising of a work extra, may be placed on file when the work extra's working order expires. Also, when a crew is given until a certain time to run extra to a station with right over all trains, if the order be addressed to all trains at the station the extra is running to, there can be no objection to filing such order to all trains when the time limit has expired, or the extra has been reported in. There are other isolated cases wherein it is safe to instruct that orders be filed without annulling them, which may be taken up from time to time, as the circumstances require. For instance, when only one order is awaiting a train and it is fulfilled beyond any doubt, the only objection that can be urged against directing an operator to file such order, instead of annulling it, is that such instructions may eventually cause an accident, due to a practice which is unauthorized by the code and is discountenanced, except on a dozen or so roads. A great deal depends on the ability of dispatcher to keep up with his work and also find time to annul all orders not necessary to deliver.

There can be no objection to an operator filing an order addressed to "All Concerned," annulling a schedule, when such schedule becomes twelve hours late at his station. Also they may file an order so addressed, running a train late, when delivery of such run-late time would be of no benefit to trains receiving it, provided they do not file the order for the train thus directed to run late, if it is known that the train restricted is to receive a copy at their station, even though it may pass some later than the time named. Care must be exercised in addressing orders specifically in such cases, so an operator will not fail in the delivery to trains which must receive the order.

#### **ADDRESSING ORDERS TO ALL CONCERNED.**

While an order addressed to "All Concerned" has its place in the general plan of operating trains at a minimum of labor and risk, good judgment must be exercised in placing such orders, and care must be taken to insure against accident by an operator getting the impression that such orders should be delivered only when called for. It is not best to place such orders at intermediate stations when orders addressed specifically can be used as well. If intended to be delivered only to helper crews, or certain freights, or for trains moving only in one direction, it is much better to address to such trains. If a run-late order, and it is desired that it be also delivered to the train directed to run late, should address such train particularly, thus: "C & E No. 2, and All Concerned." Operators must be instructed very clearly when there can be any doubt raised in their minds as to just what disposition to make of such orders. A great many operators fancy that such orders may be placed upon the counter

and only such crews as need copies receive them, and that these crews may be depended upon to provide themselves with copies without having attention called to them. Others fail to display their order-signal at stop for such orders, claiming that the order is understood to be only for such trains as are created at their station. If it be desired to have such orders delivered only to certain trains, fully instruct operators, or so specify in the address, as "All Concerned" is too sweeping an address for an operator to comprehend without supplementary instructions, especially at intermediate stations. This form of address was never intended to be used at stations other than where trains were created, and only for such trains, unless some definite understanding is had with operators as to its delivery. The question is, can operators be depended upon to decide when such orders should be delivered and when it is unnecessary to do so? Dispatcher may be depending upon the order so addressed to prevent a train from running less late, while operator might file such order when the time expires and clear the train restricted by the order, and it may recover time and become less late.

Do not place an order for "All Concerned" at A, running a train one hour late, and have only forty-five minutes of the same train's time awaiting trains at some station reached afterward. Such practice is confusing, to say the least. Take up the forty-five minutes.

Never issue an order addressed to "All Concerned," running a train late, and afterward run the train less late. You do not know into whose hands the order may fall, or what information an operator may give out as to the lateness of the train, which may be acted upon by

yard crews without properly protecting against the delayed train. As a principle, it is not best to ever cut down a run-late order. It is infinitely better to suffer the delay and require the train to run as late as originally instructed.

An order addressed to "All Concerned" becomes void the same as any other order when a train reaches the station it is directed to run to; but the same order, addressed in the same way and timed at the same time, may be used by such train when it is re-created and is again given such order at the station where new running orders are received.

#### **ANNULLING ORDERS.**

Unquestionably the matter of annulling orders, and their far-reaching effect on the movement of trains, is the one subject of all others that should be clearly understood by dispatchers. An excellent way to take from a train which is created by train order all of its authority to run is to say to it: "All former orders annulled." There are pitfalls, however, that must be guarded against. Because the form is proper in many cases, it is not always so. It is a principle that will endure that when a crew loses authority to run as a train all of their orders thereupon become void; but men may, in aggravated cases, overlook this fact; for instance, an order to "All Concerned." A crew might clearly understand that all orders were made void when their running orders were annulled, except one to "All Concerned," and contend that this one order was in effect indefinitely. Should dispatcher desire to take from an extra its authority to run as a train, he can do so by annulling the order which created it, but it is much better practice, in such cases, to say: "All for-

mer orders annulled," because the number of the running order registered in dispatcher's record-book may not be the same as that placed on the order delivered to the crew.

Do not forget that regular trains have certain inalienable rights which are not made void when an order reading, "All former orders annulled" is delivered to them. The regular may be a section; that is, it may have been No. 1 and afterward received an order to display signals, then when such annulling order is given to them, their authority to use the schedule is not thereby taken from them; they may revert to their former identity. Such order then simply takes down their signals and makes void any train orders they may hold, and permits them to proceed by time-table. It is better to annul certain orders by their individual numbers in such cases.

Again, suppose you say to a train: "All former orders annulled," and there are orders awaiting it, or which they may understand to be for them by being addressed to "All Concerned," at some station reached thereafter, issued before such annulling order was sent, very likely lower numbers, and timed before, is not there room for misunderstanding? Is not the crew likely to assume that those orders were also made void? As stated, this form of expression is excellent as applied to extras and certain sections, but it will be seen at a glance that the result sometimes brought about through annulling orders is almost beyond belief. A regular train had two orders to meet trains. Dispatcher said to it: "All former orders annulled;" then the crew were puzzled. They understood that they were still a regular train with only time-table authority to proceed, but what did the dispatcher understand? A misunderstanding on his part might have resulted in loss of life. Also, it will be seen that an



order reading, "Former running orders annulled," should not be issued for a regular train not running as a section, because, being the only train on the schedule, it probably was not created by train order, or instructed by operator to run as a section, and therefore had no running orders, in a strict interpretation of the meaning of the word. Should it be desired to make the train referred to a following section on the schedule, it would be better to temporarily withdraw its engine as the train, or use the form: "Following section change number accordingly," notwithstanding such form is not in exact harmony with the fact, as the regular is not a section in the true sense of the word. It would be entirely proper to address the creating order to the engine to be made the first section, and to the regular train, directing the two engines to run as first and second sections.

Technically speaking, a former order is one which was completed for a train prior to the time, or at the same time, if numbered lower, that the annulling order was issued; but we cannot afford to split hairs in such matters. If Orders Nos. 40 and 41 were to be issued for a train and, afterward, it is advised by Order No. 42 that "All former orders are annulled," the crew would no doubt understand that all of its orders, except No. 42, were annulled, even though all are completed at the same time. But would it not be better to so time the several completes that a misunderstanding could not arise, or fully instruct by message? It seems improbable that anyone would understand that if Order No. 42 is given, annulling all former orders, and, afterward, at some station in advance, Order No. 30 is found and is signed and complete is given, timed after Order No. 42 was completed, that it shall be understood that Order No. 30 is also void, while

if a "19," and completed before Order No. 42, the crew would probably disregard such order. But suppose such a condition be present, would it not be proper to fully instruct, or avoid a misunderstanding by saying, "Orders Nos. 23, 25 and 41 are annulled?" It is a matter that must be provided for safely by the dispatcher. Some intricate situations may be taken care of by saying, "All former orders, except No. 39, are annulled."

If you say to a train: "All former orders annulled," and one of those orders is the annulment of a train, the crew may properly contend that their right to disregard such annulled train is thereby made void, and they should be again given the annulment of the schedule when recreating such train, or make an exception by stating that "All former orders, except No. 20, are annulled."

There is much greater danger in connection with annulling an order than in superseding one. Say No. 17 holds an order to meet No. 2 at E, and before arrival at E, an order is given them at D, reading that their order to meet No. 2 at E is annulled, acknowledgment must be received from the conductor of No. 17, and it must be known that this train is on the siding at D, or fully protected, if inferior to No. 2, before complete may be given to the order for No. 2. Had the meeting point been changed by "instead of," No. 2 could have been permitted to go to D before signature of conductor of No. 17 was placed on the order, provided such order had been repeated, or the "X" response sent, and, if necessary, provision be made for No. 2 taking siding. To simply receive acknowledgment from operator at D to an order annulling No. 17's meeting point with No. 2 is not enough; No. 17 may not have arrived at D, or, if there, may still be on the main track, or get on main track even

if on the siding at the time, because conductor has not been advised that his superiority over No. 2 has been taken from him.

Do not say to a train: "Order No. 10 is annulled," if such crew has not the order. If desire to annul an order to certain trains in such cases and avoid confusing others not concerned, word the order thus: "Order No. 10 to No. 2 is annulled." If the words "instead of" be inserted in an order and the train has not received the order referred to, it will be necessary to provide them a copy. Otherwise, how can accidents be prevented when there is a failure in the delivery of orders and a part of one is superseded in this manner? The crew is clearly aware that an order has been issued in which they are concerned, and if they have not received such order should call for it.

Confusion may arise just after midnight on account of the higher numbers issued prior to that hour and the lower ones on new date, men sometimes getting the impression that the higher numbers are the ones which shall be respected, to the exclusion of the lower numbers issued later.

Should a section be added on the road, it is the duty of dispatcher to provide the section created with all orders necessary for them to have, not depend upon the crew to secure orders from the crew of the train withdrawn or changed to a higher number. In this case, if orders were previously given to the sections changed to higher numbers, such orders continue in effect for them after the change, provided they are still addressed to the numbers assumed. If third section has orders addressed only to that section, of course such orders cannot be used by that crew when it is made the fourth section.

If orders be sent to first and second No. 1 and, afterward, first No. 1 be withdrawn and second No. 1 be directed to change number accordingly, the crew changing from second to first section still respect the orders sent to first and second No. 1, because they are still in effect for them after becoming first No. 1.

If No. 1 has orders to meet trains, run late, etc., and is afterward directed to display signals, notwithstanding they then become first No. 1, all orders addressed to No. 1 are still in effect for them. Or, if running as first No. 1, and orders are given to take down signals, any other orders the crew may hold, addressed to first No. 1, are still in effect for them after becoming No. 1, the same as those addressed to No. 1.

Should the second section be run by the first and, in making this movement, an order be given annulling former running orders, all orders held by both crews thereby become void and must be re-issued. To annul running orders has the same effect upon a train that may be understood to occur when the section is withdrawn, annulled, or the train reaches the end of its run, or the point to which it has orders to run as a section. But, in such cases, would it not be best to leave no lingering impression in the minds of conductors and enginemen that this is not true, by saying to them: "All former orders annulled?"

Will anyone contend that when a crew is given an order, stating that it is withdrawn, discontinued or annulled as a certain train or section, that all of its orders are not thereby made void? And if it be again created as such train or section that it is not necessary to re-issue all orders that it is intended for the men to use under the new running orders? Let us suppose that a crew arrives

at a junction and is made void as a train by having its running orders annulled, or being withdrawn, for the purpose of sending the crew on a branch and, upon its return to the junction point in a few hours afterward, it is again given orders to proceed on the main line as the train it was before being made void as such; must not it have all new orders? What possible difference can there be in theory if the train be made void in this manner for the purpose of passing another section by it, or for other reasons, even though it be immediately created as another section of the same schedule from this junction, must not it be given all new orders? Is it safe to assume that men will understand one thing in one instance, and interpret differently at other times, in practically parallel cases?

The latest revision of the code provides for a section passing another of the same schedule, by directing the crews to "reverse." It is silent as to what disposition shall be made of orders held by such crews; must they exchange, retain or destroy them? or must dispatcher re-issue? No doubt it will be claimed that orders remain in effect, and crews must exchange them when identity is exchanged. Does this impress you as being the best practice? After having examined about 25,000 train and enginemen, the writer is of the opinion that it would be unsafe to so use the rule. It seems to dump everything onto the men and relieve the dispatcher of all responsibility, when the exact reverse should always be observed; that is, in all such intricate cases, dispatcher should so annul or re-issue orders as to leave no doubt whatever in the minds of train and enginemen as to exactly what they must do or understand.

It is well understood that when an extra reaches a point to which it is directed to run extra, all of its orders become void and must be again issued when such crew receives a new running order. But a most serious complication can arise through an attempt to extend some of the extra's orders by instructing it, before arrival at the point to which it is directed to run extra, that it will run extra to several stations beyond "instead." If the extra holds orders in addition to one to merely run extra, it would be much better to avoid extending their running orders in this manner, but, instead, advise it that all of its orders are annulled and reissue such as it is desired to have it respect under new creation, the same as was done when such extra was originally created. A similar misunderstanding may ensue when an attempt is made to extend the time-limit of a work extra. It may be contended by some that when a work extra is given an order that its working time is extended to 9.00 P. M., all orders held by the train under the former order to work until 6.00 P. M., are thereby continued in force until 9.00 P. M., but it is doubtful if such be the case. Let us suppose that a crew is given an order to work extra until 2.00 P. M. and it is directed by same order to meet an extra at some station within the limits, what would be the status of the matter if the work extra were simply given an extension of the time to 4.00 P. M.? Would not the extra disregard the work extra after 2.00 P. M., or would not the work extra also, quite likely, contend that, after 2.00 P. M., under the extension, they were not restricted for the extra which they were previously directed to meet? Complications of this nature could be cited indefinitely, but what would be gained by so doing? Is it not the duty of dispatchers to think of these things and to issue orders so that an ac-

cident will not result through a misunderstanding of an extremely delicate theoretical point?

Some companies provide for sections being created at certain initial stations by operator or yardmaster, using a form for the purpose different from the 19 or 31. When thus created, should it be necessary to pass a section by another, the later instructions given by train order makes void the former running instructions issued by operator or yardmaster, but, in order to prevent argument, perhaps it would be best to say: "Former running instructions annulled." Former running instructions or running orders are made void when sections are advised that they are withdrawn, annulled, discontinued, or must reverse, some companies using one form of expression, while others adopt another, to make it clear that the crews have had their authority to run as trains taken from them.

The standard code does not contemplate orders being annulled except by their individual numbers, but this practice is not always followed, nor is safety and clearness always best attained by doing so.

#### **WHEN EXTRA AND REGULAR TRAINS RUN IN COMPANY.**

When an extra, or other inferior train, is running in company with a superior regular train, provide for all trains moving in one direction to hold the main track when a meeting point is fixed with an opposing train, if the conditions are such that part of the trains moving in one direction may hold main track, while the others must take siding. Do not allow men to assume it to be proper to hold main track because the train which they accompany is the superior one, as the meeting point

may be changed for some of the trains and the inferior train holding main track merely upon this assumption may be collided with at a station where the view is obstructed, if habitually encouraged to hold the main track without positive authority.

Do not give an extra an order to run ahead of a regular train and then so word meeting orders with opposing trains that the extra will have to take siding, while the train following it may hold the main track, thus causing confusion and often delay by sawing, or unnecessarily detaining opposing trains which are already upon the siding.

#### **RESTRICTING TRAINS BY NIGHT AT DAY OFFICES.**

Should it be necessary to place a restricting order for a train after 7.00 P. M. at an office which is shown by timetable, or otherwise, to be open only from 7.00 A. M. to 7.00 P. M., see that operator attends to lighting his order-signal lamp and that he understands he must not depend entirely upon such signal to stop the train, but must use a torpedo and a red lantern, or red fusees, in addition.

Were the order-signal light to fail after 7.00 P. M., it is doubtful if the train would stop, as, under such circumstances, a failure would not be regarded as a danger—stop—indication, unless the blade be observed at stop, and it has been demonstrated many times that order-blades are not inspected painstakingly by enginemen during the night at offices where operator is on duty only during the day.

#### **ENTERING ORDERS IN RECORD-BOOK.**

Keep a faithful record of every train order in book provided, showing the kind of order, as 31 or 19; time



repeated or X-d; whether operator stated that order-signal was displayed at stop; and the names of those who sign for the orders.

When orders are fulfilled, check them off with a blue pencil, or otherwise, using your initials or private signal, to enable those still in effect to be more readily referred to. A rubber stamp, bearing your name, is a great convenience to use in this connection.

#### **ENTERING TRAINS ON TRAIN SHEET.**

When an extra reports for orders, enter it upon the train sheet at once before giving it an order to run extra. If a round-trip order, enter it on both sides of the sheet. If a work extra, write the train upon sheet, and, in addition, mark a circle in pencil around its limits. Remember that work extras, and regular trains ahead of time, are the trains most likely to be overlooked, and make necessary notations to call to mind such trains. Form the good habit of carefully looking over the sheet, even though you may know there are no opposing extras, or regular trains ahead of time, before giving any crew an order to run extra, work extra, or pass stations ahead of time.

When a schedule is annulled, endorse the fact upon the train sheet in the same manner that a train which is to run is entered, showing its number, between which stations annulled, and the number of order annulling it.

#### **PASSING A TRAIN AT A BLIND SIDING.**

Should it be desired to authorize an inferior train to pass a superior train in case it be overtaken at a blind siding, not disabled, an order authorizing the movement may be sent to the superior train at the blind siding in care of the inferior train, or the movement may be made

by use of the following form: "Extra 20 South may pass No. 7 when overtaken, showing them this order."

### MEETING ORDERS.

"Order No. 1.

No. 1 will meet No. 2 at B."

"Order No. 2.

No. 1 will meet No. 2 at C instead of B."

"Order No. 3.

Order No. 2 is annulled."

It is quite clear that, under the above orders, there is no meeting point fixed by train order between the two trains; but the combination is so often misunderstood to mean that Order No. 1 again goes into effect, after receipt of Order No. 3, that it would hardly be safe to depend upon crews to not misunderstand. Avoid issuing such orders if possible; but if impossible, then ensure that it is well understood by both crews that, under the three orders, the trains are to run by time-table, so far as each other is concerned.

"Order No. 1.

No. 1 will wait at A until 1.10 P. M. for No. 2."

No. 1 arrives at A at 1.00 p. m. and receives Order No. 2, reading, "No. 1 will meet No. 2 at B." A great many interpret this to mean that No. 1 may leave A at once, without waiting until Order No. 1 is fulfilled. If it be desired to have No. 1 leave A before 1.10 P. M. Order No. 1 must be annulled or superseded.

"Order No. 1.

No. 1 will meet No. 2 at B."

"Order No. 2.

No. 1 will meet 1st and 2d No. 2 at A instead of B."

There is also much misunderstanding as to this combination, many being under the impression that, should second No. 2 arrive at A with green signals, No. 1 must wait there for all following sections, while others contend that No. 1 is not restricted at all for the third section. Under the two orders, No. 1 meets first and second No. 2 at A and all other sections of that schedule at B, but knowing the wide difference of opinion as to this, it is recommended that the forms should not be used in this manner. Misunderstandings can easily be avoided by specifying sections in all orders.

“Order No. 1.

Eng. 20 will run extra A to C and will meet Extra 30 North at C.”

“Order No. 2.

Eng. 20 will run extra C to Z.”

Do not overlook the fact that when extra 20 is recreated at C they are starting on another trip and are not required to respect orders given them while moving from A to C. If they are to meet extra 30 north at C, or elsewhere, they must again be given orders to do so.

Extra trains must not be given meeting or time orders (except a “run-late” time order) over trains beyond the point to which they are directed to run extra.

“Order No. 1.

No. 15 will meet No. 2 at C.”

“Order No. 2.

No. 15 has right over No. 2 C to Z.”

It is astonishing how many men understand that, under the above orders, No. 15 may leave C against No. 2, while others contend that No. 2 may disregard both the right order and No. 15’s time-table time and come to C

on the original meeting order, taking siding at C, because such order has not been superseded. The fact is No. 15 cannot leave C, and No. 2 must clear No. 15's time-table time, as prescribed by rule, between Z and C. Had the right order been issued first, and then the meeting order, the orders would have been properly given and, under them, the trains would meet where directed to meet, the train over which right is given taking siding at all points, except at the stations named first and last in the right order.

"Order No. 1.

No. 1 will meet No. 2 at B."

"Order No. 2.

No. 1 will meet No. 2 at C."

This combination is viewed by many only with the idea that their train may advance. If on No. 1, notwithstanding Order No. 1 is not superseded by Order No. 2, such crew has been known to proceed to C altogether too many times to cause one to feel assured that there will be no errors of this kind hereafter; while men who are running No. 2 most stubbornly contend that, as their order to meet No. 1 at B has not been superseded, they may disregard Order No. 2 and proceed to B for No. 1. The orders, thus given, must be understood to hold No. 1 at B and No. 2 at C. Men must be governed strictly by the terms of every order delivered to them, not form the dangerous habit of selecting only such as forward their trains, or attempt to read into orders not perfectly clear that their train may proceed on them. Necessity for this is more apparent when it is remembered that, should a crew lose authority to run as a train and be re-created, the words "instead of" do not have to be

added when again directed to meet trains they were ordered to meet under former running orders.

"Order No. 1.

No. 15 will meet No. 16 at B. No. 16 will (run by and) back in."

This is not a very good form of order, and should not be issued, except when unavoidable. No. 15 may miscalculate the number of cars No. 16 has and not stop far enough from the switch, or may see some other train on siding and take it to be No. 16 and pull down, while No. 16 may be running rapidly to go by to back in. No. 15 should be advised as to number of cars in No. 16, and, if any other trains at the station, also give notice of that fact.

"Order No. 1.

No. 1 will take siding and meet No. 2 at B."

"Order No. 2.

No. 1 will meet No. 2 at C instead of B."

\*Under the above orders, No. 2 would take siding at C, being inferior by direction. Sometimes, it is desirable to be somewhat more explicit than seems to be actually necessary, as shown by the following example:

"Order No. 1.

No. 7 will take siding and meet No. 8 at B and hold main track and meet No. 10 at C."

Had not No. 7 been directed to hold main track at C, the crew might easily have misunderstood and taken siding, especially if worded as follows: "No. 7 take siding and meet No. 8 at B and No. 10 at C."

An order as misleading as that just above, or the following, must not be given:

---

\* This decision is rendered by the author without having consulted the Train Rule Committee of the American Railway Association.

"Order No. 1.

No. 7 will meet No. 8 at B and No. 10 at C. No. 7 take siding."

There is objection to running trains ahead of time, except when something substantial can be gained by doing so. If permitted at all, the practice should be confined to territory between open telegraph offices, and limited to trains which do not carry passengers or mail. When it is done, anticipate the misunderstanding that may arise as to taking siding, should the train which is directed to run ahead of time afterward fall back on its schedule time before the meeting point is reached, and provide for safety by wording the order as follows: "No. 15 will run B to D ahead of time and will take siding and meet No. 16 at D." Should no instructions be given as to taking siding, No. 15, being superior by direction, would hold the main track if they were to be delayed and fall back on their time-table time, while No. 16, expecting No. 15 ahead of time, would also hold main track at D. In a fog, an accident could easily result through orders which failed to direct one of the trains to take siding.

Orders similar to the following must not be given:

"Order No. 1.

No. 16 will pass stations ahead of time."

"Order No. 2.

No. 16 has right over No. 15 D to B."

Not being advised that No. 16 is running ahead of time, No. 15 may go as far as they can make for No. 16 by time-table, while No. 16 holds an order to disregard time at stations. Order No. 1 should read: "No. 16 may pass D and C ahead of time and has right over No. 15 D to B."

Another quite simple problem is being given undue prominence: It is claimed by some that if an extra is given right over, or an order to meet only the first section of a schedule, that the extra can go only as far as it can make and clear the time-table time of such schedule, since it has received no help against the second section and must therefore clear it. Whether or not this be true, theoretically, is immaterial; the fact remains that trains have been and will continue to be moved in this manner for years to come. Such movement seems to be clear and proper, unless there be a chance of the second section passing the first, in which case such an order should not be given, but, instead, provide safely for following sections by giving right over all, or the several concerned.

It is not always safe to give right over the first section of a train. If such section can enter the limits and properly clear the time of the train given right over it, it may do so, while the second section, not being restricted, might follow and hold main track at the meeting point and thus collide with the train having right over the first section. Or, the first section might be overlooked within the limits and, not knowing it had been met and the right order thereby fulfilled, the train having right might go on against the second section. In such cases, Rule 218 may be used, or a much better practice would be to specify all sections likely to be affected.

On roads where southbound trains are superior by direction, should No. 2, a first-class train bound north, receive an order giving No. 15, a third-class train bound south, right over them from E to H, No. 2 would be required to take the siding for No. 15 only at stations

between such points; even though No. 2 be afterwards given orders to meet No. 15 at E, No. 15 must take siding there. But should an extra south be given right over an extra north, on the same road, within the same territory, the extra north would be required to take the siding at all stations, including the first and last. The reason for this is clear: the right order does not reverse the previous time-table superiority of southbound extras at stations and probably was given to clear the road for extra south and pave the way for a later order directing it to wait at stations until certain times for the extra north, when a meeting point could not well be fixed.

#### **TIME ORDERS.**

It is hoped that when an order is issued to an inferior train, running a superior train late, and, afterward, another order is given before the point is reached where the order giving less time is awaiting such inferior train, time can be found to take up the former order. When crews afterward receive an order giving them less time, they sometimes become confused and are in doubt as to whether their former order continues in effect. The objection to the practice is more particularly in the effect it may eventually have upon men. When accustomed to receiving less time without "instead of" being added, would it ever be safe for a dispatcher to attempt to cut down the time of a train? Can men then always be depended upon to consider the effect that the words "instead of" have upon such orders?



While the following combination of forms is proper, avoid their use, for the reason that so many fail to discriminate between orders which contain the words "instead of," and those that do not, when such orders are afterward annulled.

"Order No. 1.

No. 1 will run 1 hour late A to E."

"Order No. 2.

No. 1 will run 45 mins. late A to E instead of 1 hour late."

"Order No. 3.

Order No. 2 is annulled."

Many opinions are given to the effect that, under the above three orders, No. 1 must run one hour late, while it will be seen that the train may properly run on time. Rather than take chances of some train inferior to No. 1 misunderstanding, it would be better to make the third order read:

"Order No. 3.

No. 1 will run 5 mins. late A to E instead of 45 mins. late."

#### CREATING SECTIONS.

"Order No. 1. C & E Engs. 20 and 30 A.

Engs. 20 and 30 will run as 1st and 2d No. 1 A to E."

When asked if either of these engines may run as No. 1 from E to Z without further creative orders, often answer is given that the regular crew may proceed as No. 1. Knowing this to be a common impression, it would be best to prevent misunderstanding by wording the order as follows when it is intended that one of the crews shall go through:

"Order No. 1. C & E Engs. 20 and 30 A.

Engs. 20 and 30 will run as 1st and 2d No. 1 A to E.  
Eng. 30 will run as No. 1 E to Z."

There is no question as to fact. No train is authorized to run beyond E under the first example and no crew can assume the schedule from that point without train order authority, but men cannot get rid of the idea that a regular crew, or the first section, has certain arbitrary rights vested in it. The form of address governs: if addressed to engines, they are only engines before being authorized as trains, and when their running orders are fulfilled, they again become only engines. If the order first named had been addressed to "C & E No. 1 and Eng. 50," the crew addressed as No. 1 would take down signals at E and proceed as No. 1 from that station without orders to run as No. 1, being No. 1 by the address before signals were authorized, and again becoming No. 1 after such signal order is fulfilled. The crew addressed as Eng. 50 is made a section of No. 1 from the place where created to the switch where inferior trains moving in that direction take siding at E, and is left without authority to run from that point. Should the crew of engine 50 have passengers, they probably would go to the station on the main track, protecting themselves as the circumstances require. Should you find it necessary to run all sections only to an intermediate station, carefully instruct the regular crew so that they will not assume the schedule from such point without train order authority. If no other safe way occurs to you, run all the sections through from the initial station and afterward withdraw or annul certain crews at the intermediate station.

Should No. 1 be authorized to display signals for a crew to come from a branch, do not permit an inferior

train which may have been passed by No. 1 when they had no signals displayed, to run between the sections from the junction, before advising such train that No. 1 is directed to display signals from a certain station. This may be done by addressing the signal order to all following trains which may be concerned, either at the junction, or before such station is reached.

It is improper to issue an order, reading, "Eng. 20 will run as 1st No. 1 A to Z." The order should have directed such engine to display signals, notwithstanding there cannot be any such thing as a first section unless signals are displayed by it.

Necessary precautions must be taken when a section is added at an intermediate station. Until the following sections arrive and acknowledge the order changing identity, there will be duplicate sections arriving and leaving the point where the section is added. Fully advise opposing trains, to prevent their leaving the station against, say, the second section, when some other crew is made second section from such point and orders are given to meet the second section. Or, the crew added and which is to run out as second section, may be slow about getting up signals to protect following sections. The same complication arises when a section is passed by another: there is danger of a brakeman, or some other thoughtless person on the train which arrived as the first section, identifying themselves to an opposing interested train as the second section, before the original second section has arrived and passed the first, which is made the second leaving such station.

When a section is passed by another of the same schedule, it would be much better to clear up all doubt

as to validity of certain orders by wording the order changing identity as follows:

“Order No. 10.

C. & E. 1st & 2d No. 15 E.

All former orders annulled. Engs. 30 and 20 will run as 1st and 2d No. 15 E to Z. Eng. 30 pass Eng. 20 at E.”

In theory, at least, when the running orders of the sections referred to are cancelled, all of their orders are thereby made void, but does not the above impress you as a much more satisfactory way to insure a perfect understanding?

Should it be desired to make engine 20 the first section of No. 15 from B, and the first section arriving at such station the second section leaving, opposing superior trains may have to be given an order to meet the first section of such schedule at two different stations. Such movement is worded as follows: “No. 2 will meet 1st No. 15 Eng. 20 at C and 1st No. 15 Eng. 30 at B. 1st No. 15 Eng. 30 arriving at B will be 2d No. 15 leaving there.”

### EXTRA TRAINS.

#### SUPERIORITY OF EXTRAS.

Unless conferred by train order, one extra has no superiority that another extra is required to respect, except that extras moving in the direction in which trains are made superior on a division by time-table provision, are entitled to the main track at meeting points over extras in the opposite direction for which they are restricted. Extra trains within the same limits should be handled as follows: Direct them to meet each other; or give one right over the other, prescribing, if desired, time the extra thus made superior shall wait

at stations for the extra over which right is given; or instruct one extra to wait for, keep clear of, or protect itself indefinitely or after a certain hour against other extras, furnishing all extras concerned copies of such orders as may be necessary, or is required by rule.

The latest revision of the code provides for work extras protecting themselves against extra trains at all times, unless instructed by order not to do so.

Obviously, the following form of order by itself is unsafe: "Extra 20 south will wait at E until 10.15 A. M. for Extra 30 north." There is nothing to prevent extra 30 north from going right along, if unable to make E by 10.15 A. M., or if it arrives at E before such time and does not find extra 20 south there, it may disregard such extra and proceed, and could collide with it between E and A. Also, the following is unsafe: "Eng. 20 will run extra A to E and work extra 7.15 A. M. until 6.30 P. M. between E and F. Eng. 30 will run extra F to A, and will protect against Work Extra 20 between F and E." It will be noticed that if extra 30 flags from F to E without meeting extra 20, it may then proceed to A, while extra 20 may be delayed and fail to arrive at E by 7.15 A. M., since their order to run extra does not expire at 7.15 A. M.; or, viewed from another standpoint, extra 30 north may be able to reach E before 7.15 A. M., and could then disregard extra 20.

Do not word an order, "Extra 30 north has right over Extra 20 south Z to E," on the supposition that when the right orders expire at E, extra 30 north must wait there for extra 20 south, because extra 20 is moving in superior direction. Such extra may proceed at once, and unless extra 30 north is in some manner restricted at E for extra 20 south, an accident could occur between A

and E if extra 20 south is still between those stations. Do not get the impression that, in such cases, an order holding extra 30 north at E until extra 20 south arrives is sufficient, as both extras would then be entitled to the main track at E, and, if view be obscured by fog or curve, the trains might pass the order signal far enough to cause a collision. One of the extras must be instructed to take the siding. It is a principle in train dispatching that extras or other trains moving under train orders, must not be allowed to come to a station to meet each other, without previous instructions being given them, as may be necessary, for trains going in one direction to take siding, when the matter is not clearly provided for by rule, or signalmen. There is too much risk of accident on the main track at such stations, due to fog, or an obstructed view from other causes. Even supposing both trains to be under control and aware that they must not advance beyond such point without further orders, they may pass the order-signal a few car lengths, depending upon opposing trains taking the siding.

An order must not be issued to run extra from A to Z and, at some intermediate station, instruct such extra to return to A, without annulling the former order to run extra A to Z.

#### EXTRAS WHICH MAKE SEVERAL TRIPS WITHIN THE SAME TERRITORY DURING A DAY.

If a helper, work extra, or other extra, is to make more than one trip against a regular train of the same date, so word orders that a misunderstanding cannot possibly arise. Where there is a train register, the regular train which is restricted should consult the register and determine that the extra has registered as arriving after

the order holding it for the extra was X-d, or repeated, but can they always be depended upon to carefully scrutinize such register and keep this intricate technical point in mind? Dispatcher should anticipate that conductor may become confused. Speak of the extra in the order as being on its second trip, or keep out a 31 order for the regular train at point it is to meet such extra and not complete it for the regular train until operator has given O S of the extra as having arrived on the trip upon which it is intended it shall be met. Watch work extras. They may run in and out of a station several times and contend that they have not arrived, because they did not register their arrival. To give an order to No. 10 and work extra 20, reading, "No. 10 will wait at A until 11.30 A. M. for Work Extra 20," is not as safe as to simply say to No. 10 and the work extra that No. 10 will wait at A until 11.30 A. M., for the reason that the work extra may come to A before that time and leave there, and No. 10 assume they may follow such extra, while the crew of the work extra may understand that they may return to A as many times as they please, until 11.30 A. M., and a collision result through their doing so. The same is true of an extra having a round-trip order. It may claim it has not returned to its starting point, because it stalled on a hill and returned to take another run, but did not register in. The new code rules require extras having round-trip orders to go to the station to which they are directed to run, before using the return portion of their order.

#### SHORT RUNNING ORDERS.

Do not trap men by giving them all the orders they require to start on a trip, then close key without issuing

necessary running orders, or at least explaining to operator that you are not yet ready to give creating orders, so he will not deliver the other orders to the conductor.

Do not run an extra from A to B one day, A to E the next, and then from A to Z another time. Nor should one extra be run from A to E and another from Z to A, with orders to meet the opposing extra at E, placing dependence upon the fact that the expiration of running orders of the extra moving from A to E will prevent that extra from passing E, for it has been demonstrated, times without number, that crews will forget their running orders and move on without any orders at all, having been accustomed to receiving orders to run through most of the time. Nor may you instruct extras to run from A to E and from Z to E, and depend upon the fact of their running orders expiring at E to prevent them from colliding, unless E be a station to which extras have been regularly moved in this manner, and it is well understood that those going in a certain direction will take siding. At least, the operator at E should be given an order that the extras will meet at his station, to prevent the possibility of one of the crews forgetting and advancing beyond such station without running orders. It will not be said that the same element of risk is present when one extra is run from A to E, and another from Z to N, because, in such cases, the extras are not within some miles of each other, although they be opposing.

Select certain natural dividing points on your division and run through extras to such stations regularly, never beyond or short of such points at any time, if it be possible to avoid it; and should it be impracticable to avoid, take the necessary precautions to insure safety. It is, of



course, best to run extras to their destination at all times when a division is not of such length as to make it extremely burdensome to do so.

Whenever extra trains have been moved contrary to the foregoing, it has always resulted in running orders being overlooked, sooner or later.

#### WORK EXTRAS.

If an extra is going in the same direction and within territory that a work extra is to be created, insure safety by instructing the work extra that its working order will not become effective until after such extra has departed from the station where working order is given, thus: "After Extra 30 north leaves E Eng. 20 will work extra, etc." Do not depend upon the O S of the operator, as he might report a train as departing when it may have gone only to some siding at the station not within his view. Should there be a siding within the limits where the work extra might pass this extra, and afterward move toward it, direct the work extra to not pass the extra within the limits. Otherwise, the work extra might pass the extra without taking the precaution to ascertain if it had been instructed to protect, assuming that, as no orders were given to clear extra 30, it must certainly have received instructions to protect against the work extra.

Crews sometimes misunderstand orders which appear to be clearly and properly worded. Recently it developed that a conductor and engineman understood an order reading, "Work Extra 20 will protect against all trains except first-class," to mean that they need not protect when no regular trains were due. Had the order been worded, "Work Extra 20 will protect against all extras and all regular trains except first-class," it would

not have been possible for any one to have misunderstood. It is not claimed that the first form is improper, the misunderstanding that resulted simply shows that dispatchers cannot be too careful in wording orders clearly.

There is objection to giving a work extra an order to protect against "one extra north" after a certain time. The movement can be made in at least two other ways: instruct the work extra to protect against all extras north after a certain time, and send the annulment of such order to the work extra by the extra north, or give the number of the engine you have reason to believe will be on the extra north, and, should another one report to run the extra, send an order to the work extra by such extra, stating that its order to protect should read to protect against extra 20 north, instead of extra 30 north. There is too much risk in failing to specify an engine number. Some may contend that an order similar to the one just above is improper. While the point appears to be well taken, it remains for such persons to show in what manner it is unsafe, or a violation of Rule 202, if viewed broadly.

"Order No. 1.

Eng. 20 will work extra 6.30 P. M. Monday, April 2d, until 2.30 A. M., Tuesday, April 3d, between A and C, and will meet Extra 30 north at B."

Should work extra 20 fail to arrive at B by 2.30 A. M., Tuesday, April 3d, extra 30 may disregard them after that time. When the working order expires, the order to meet the work extra also becomes void.

An order may be given to work for a week or longer, provided dates and times are stated, but one should not be given to work "until track is clear;" nor should the time or working limits of a working order be extended.

It is best to annul the former order, in such cases, and provide all new orders.

If an extra is to be given a working order during its trip, its orders to run extra should be annulled, and a working order then given. When through work, the working order must be annulled, if it has not expired, and a new order be given to again run extra. If it be desired to have the crew of a regular train work as an extra, such order may be given it without annulling the schedule it is running upon; when through work, annul the working order, then the crew may proceed as the regular train without orders to resume its schedule, provided it was not taken from them by order. If the crew is to work in advance of its schedule, it must have help against it, the same as against any other schedule. But the crew cannot drop its schedule at one station and work extra until another station is reached, and again run from that station as the regular train, without an order to run as such. It must go to the station where schedule was dropped, and assume it from that point.

If a work extra leave its working limits to get water, or for similar purpose, its working order is not thereby made void, but may be again used, until it expires, upon returning to limits. But it is much better practice to annul the working order when possible and issue another one when such crew returns. While absent from limits, the crew must not leave its train on the main track within the working limits; but as this might happen, it is a matter that should be anticipated by dispatcher. Should not authorize a train to which the work extra was previously superior to run over the limits without ascertaining if they did leave cars on the main track, or otherwise safeguard the movement.

## ANNULLING SCHEDULES, SECTIONS AND EXTRAS.

It is best to insert the day of the week, as well as the date of the month, in orders annulling a schedule or section.

The most satisfactory way to annul an extra is to address an order to it, worded thus: "All former orders annulled."

When a *schedule* is annulled at an intermediate point, the order should state that the train has arrived at such station, if it has arrived, but it is not necessary to refer to the fact that the train arrived with no signals. When a *section* is annulled at such station, it is advisable to give this information, otherwise, opposing inferior trains must stop to ascertain if the section annulled displayed signals.

A division is sometimes divided into two or more dispatching districts. In such event, care must be exercised in annulling schedules. If the schedule or train to be annulled is due to leave its initial station on a date different from that which it is due to arrive at the end of its run on such division, use the form, "No. 1 due to leave A Sunday, March 1st, is annulled E to Z," notwithstanding the clear provision in new Rule 4 that all trains date from their initial stations on a division. What might be misunderstood by men who are thoroughly good conductors or enginemen, but possess only a limited education, or ability to consider fine points, must be taken into consideration, and it is one of the duties of train dispatchers to safely guide such men. Also, keep in mind that crews are sometimes forced to be on duty long hours and the minds of the men are thus made less alert and their ability to comprehend is greatly impaired.

## **SUPERSEDING ORDERS.**

Should a train be directed to display signals to a certain station, or right be given over another train to a given point, and, before arrival at such station, the signal or right order is to be extended, the words, "instead of," should be inserted in connection with the order extending the signals or right, when such extension is authorized before the last-named station in the original order is reached.

Should the engine of a regular train break down and another engine be furnished, the train may proceed without an order to again run on the schedule, except that sections must have new running orders. Care must be taken, in case another engineman is furnished, to see that he has copies of all orders affecting the train.

If desire to arbitrarily take from a crew its authority to run as a regular train and give the schedule to some other crew, the movement may be made by withdrawing one crew and authorizing another to assume the schedule, or the following form may be used:

"Order No. 10.

C & E No 15 & Eng. 30 E.

Eng. 30 will run as No. 15 E to Z instead of Eng. 20."

## **QUALIFYING MOVEMENTS.**

Should it be desired to authorize a train to run extra with right over certain trains, the following form will be found to be clear and convenient: "Eng. 20 will run extra A to Z, with right over northbound extras, but will wait at B until 1.30 P. M., at C until 2.10 P. M., and at D until 2.30 P. M."

Another convenient manner of harmonizing seemingly conflicting instructions is as follows: "Eng. 20 will work

extra 7.30 A. M. until 6.30 P. M. between A and B, protecting against extras, but has right over southbound extras until 8.30 A. M." The latter part of the order properly qualifies the first part and permits the work extra to disregard southbound extras until 8.30 A. M.

---

The most difficult thing for men to comprehend is that all orders remain in effect until fulfilled, superseded or annulled; that when an order, or a part of an order, has been superseded, such order, or part, shall be treated as if it had never been received, and must not again be used; and that a later order does not supersede a former order with which it conflicts, unless the words "instead of" be added to such later order. So widespread is the misunderstanding as to this that it is deemed advisable, in closing, to appeal to dispatchers to so arrange or word their orders that men cannot fail to understand them, leaving no movement open to misconstruction, if it be within the scope of the English language to make orders plain beyond possibility of misinterpretation.

No doubt it will be contended, and with apparently good grounds for such argument, that the principle set forth in the standard code that orders once in effect continue so until fulfilled, superseded or annulled is contradicted in the code itself, as may be noticed by referring to Rule 220, and Forms F and P. When it is necessary to instruct a train to display signals beyond the original point named in order, the later order contains the words "instead of;" but should it be desired to direct a section to take down its signals before reaching the point to which it was previously directed to display them, it may be simply told to take down signals. Some

contend that the words "instead of" are as necessary for the one movement as the other. Such objection can be answered only in one way: Special provision is made by rule for taking down signals, such order being understood to cancel the former instructions to display them, and as the orders appear to be perfectly clear, and are not a serious confliction, the matter is so handled; but the fact remains that the rules do not seem to be entirely consistent, not providing the same wording for practically the same contingencies. Form J also provides a special form of supersedure, the "may go" being used to release a train from the former holding order. There are other cases, as under a "right" and a later "meet" order, for instance, when the principles evinced by Rule 220 may be controverted, but to take issue with it so finely would only result in greater confusion.

NOTE.—"Operator's Examination" contains information necessary for dispatchers to be familiar with. "Rights of Trains on Single Track" should not prove disappointing to those who desire to go still more fully into the matter of single track dispatching.

### QUESTIONS AND ANSWERS.

Dispatchers, and others, are invited to use this department. Information sought will be very carefully considered before rendering a decision.

*Question No. 1.*—If we check register at Z and find that No. 10 has departed with no signals, follow them on an extra and come into some station north of Z on or ahead of No. 10's schedule time, but do not find the physical train there, must we ask for orders to pass such schedule, provided we can leave such point ten minutes or more in advance of No. 10's time?

*Answer.*—You do not require an order to pass or run ahead of No. 10 if you clear their time as prescribed by rule. If dispatcher runs No. 10 ahead of time, or annuls such schedule, he should advise inferior trains which are concerned.

*Question No. 2.*—Had orders to run extra A to C. Upon arrival at C, received Order No. 55 directing me to run extra C to Z. Operator also delivered me Orders Nos. 45 and 47, addressed to my train, completed before Order No. 55. Should I have respected such orders?

*Answer.*—Yes. But if you had been given Order No. 55 at A, to run extra A to Z, and, at C dispatcher had said that all of your former orders were annulled, those *completed* prior to the time on Order No. 55 would thereby have been made void. When you arrived at C all orders held by you became void; when re-created, you were a new train, starting on a new trip, and were in the same position with regard to the orders you ask about that you were when starting from A—that is, orders issued for you before you are created should be accepted, because not annulled.

*Question No. 3.*—Received “middle” Order No. 70, addressed only to operator, directing my train to wait at his station for No. 12. This order also contained the information that Order No. 69 was annulled. We had not received Order No. 69, should we have demanded a copy?

*Answer.*—No. If Order No. 70 had been addressed to your train, then you would have been concerned in Order No. 69 and should have had copies of such order.

*Question No. 4.*—Our rules require trains to receive an order addressed to them, or a clearance card, before leaving initial stations. No. 30 was given Order No. 86 at



their initial station, directing them to meet No. 31 at E; later, Order No. 91 was delivered to them, annulling Order No. 86. Was it necessary for this crew to receive further orders, or a clearance card, before leaving their initial station as No. 30?

*Answer.*—No.

*Question No. 5.*—Should first No. 1 register green signals, and, afterwards, it be decided not to run the following section, may train registers be changed to read, “No. 1. No signals,” or must trains concerned be given the annulment of such section?

*Answer.*—A train order may be given to operators to change train registers to read: “No. 1. No signals.” Such inferior trains as have observed the signals should receive the annulment of the section which is not to run.

*Question No. 6.*—No. 9 is scheduled to be passed at E by No. 15. Both are third class trains. Must No. 9 wait at E indefinitely for No. 15, if not moved ahead of them by train order?

*Answer.*—Yes. Until E is reached, the trains are of equal superiority. The fact that No. 9 is scheduled to be passed by No. 15, makes No. 9 inferior to No. 15 from the schedule passing point to the end of their run on that division.

---

# Operators' Examination

---

## INTRODUCTION.

It is not a violation of the latest revision of the standard code to prescribe that order signals shall normally indicate "proceed," use the "middle order," or deliver clearance cards with all train orders.

As the above is the common practice, this examination is based on the new code and on rules so worded. It is also formulated with the view of giving an idea of the average examination and so posting operators that they can, by carefully looking over the rules of a company and framing their answers to harmonize with such rules, pass a creditable examination upon any book of rules.

HARRY W. FORMAN.

*Nashville, Tenn., September, 1907.*

# Operators' Examination.

---

## BOOK OF RULES.

*Question No. 1.*—Have you a book of rules, and are you required to be conversant with all of it, or only such parts as prescribe the duties of operators?

*Answer.*—Yes. Must study the entire book, not assume it to be necessary to read only such rules as are referred to in this examination.

## DEFINITIONS.

*Question No. 2.*—What is the definition for a train?

*Answer.*—An engine, or more than one engine coupled, with or without cars, displaying markers.

*Question No. 3.*—Must you see the markers before giving "O S" of a train?

*Answer.*—Must not "O S" a train passing without seeing its markers, if in position to observe them. Must be advised by conductor personally, or by telephone, that train has arrived and is clear of main track, before giving "O S" of its arrival. To assume that it is the train in question and is clear of main track, when one is seen to have arrived with markers, would be unsafe, as dispatcher might then annul the order restricting the superior train, while the train noticed may not be the one to be waited for, or may not be clear.

*Question No. 4.*—As a train passes, what should you observe in addition to its markers?

*Answer.*—The head-light, signals on the front of engine, and irregularities that might cause misunderstanding or accident, such as failure to display signals at proper time, flat wheels, etc. Should there be failure to display head-light, and a lantern is not used in its place, or all the signals prescribed to indicate there is a section following, or that the train is an extra, or any other unsafe condition is apparent, must stop the train and notify it, or have operator at next station do so, as circumstances may require. Of course dispatcher should be advised. In addition, must report to proper officer by mail or wire, as may be necessary. A brief account of the facts written upon block sheet is sufficient report to mail from block stations.

*Question No. 5.*—What is the meaning of the word “right?”

*Answer.*—Train order. Without a train order right cannot be conferred. Right is superior to time-table. A train of superior right is the train given right over another train; a train of inferior right is the one over which right is given.

*Question No. 6.*—What is a Fixed Signal?

*Answer.*—A signal of fixed location indicating stop, caution, or proceed; such as train order or block boards, switch targets or lights, stop or slow boards, station or yard limit signs.

*Question No. 7.*—What is a Blind Siding?

*Answer.*—A siding (or side track) where there is no telegraph office.

#### STANDARD TIME.

*Question No. 8.*—Have you a watch that has been certified to?

*Answer.*—Yes.

*Question No. 9.*—Should you be in doubt as to your watch or station clock showing correct time, what must be done before changing order-signal to “proceed” in case a time order is addressed only to operator, or the train affected is becoming twelve hours late?

*Answer.*—Must get correct time from dispatcher, or if wires are not working, allow a reasonable time after time has expired, or the train has become twelve hours late, to insure safety.

May compare time with conductors or enginemen who have Standard Time.

#### TIME-TABLES.

*Question No. 10.*—What is the number of the present time-table?

*Answer.*—No. ....

*Question No. 11.*—Must you destroy old time-table immediately upon taking effect of new, not allow the old one to remain displayed, and so perhaps mislead another operator who may relieve you?

*Answer.*—Yes.

*Question No. 12.*—Should you hold orders for or affecting a train at the time new time-table takes effect, what must be understood?

*Answer.*—The orders continue in effect, and must be delivered to it. Must keep in mind that should its time be changed I must be governed by the time as shown by the new time-table, after such table takes effect. If in doubt as to whether or not the train can run by new time-table, must assume that it can, not destroy orders addressed to or affecting it, without consulting dispatcher. Am at liberty to question dispatcher at any time concerning such matters.

*Question No. 13.*—Where does time apply at a station?

*Answer.*—At the switch where inferior trains enter the siding. This switch is sometimes so located that a train must wait for time, or opposing trains, before coming to the train order office.

*Question No. 14.*—How are meeting and passing points shown?

*Answer.*—By full-faced type. Should both the arriving and leaving time be thus shown, it means meeting or passing points for one or more trains on or between such times.

*Question No. 15.*—What sign is used to indicate a regular stop? Flag stop? Day or night telegraph office? Office open all the time?

NOTE.—“Governing Principles Relating to Train Dispatching” contains an exhaustive explanation of Rule 4.

### SIGNAL RULES.

*Question No. 16.*—Must red lantern be kept burning during the night at night offices, and also at day offices if day operator remains on duty after dark, and must all offices be supplied with torpedoes and red fusees?

*Answer.*—Yes.

*Question No. 17.*—When must night signals be displayed?

*Answer.*—Whenever day signals cannot be plainly seen. Must not allow lamps in office to cause confusion by placing them where they can be seen by trains.

*Question No. 18.*—If office is open only during the day, and an order is received for a train between the hours of 7.00 P.M. and 7.00 A.M., what extra precautions should be taken to insure the train being stopped?

*Answer.*—Must watch order-signal light carefully to see that it does not fail, also give stop-signal by red lantern, if necessary. Must place a torpedo on rail from 500 to 1,000 feet from office if foggy, or there is an obscure curve, or the order is for a train which is not scheduled to stop, or rarely does so; or the order-signal is near switch used by inferior trains. Must not fail to use red fusees, should there be doubt about red lantern being seen in time.

*Question No. 19.*—What does red indicate? White? Green? Green and white? Blue? Yellow?

*Question No. 20.*—Should it be desired to stop a train which has not the letter “f” before its schedule, what kind of a signal must be displayed?

*Answer.*—Red. The order-signal may be used for this purpose.

*Question No. 21.*—Must the train thus stopped by a red signal, other than the order-signal, be furnished a clearance card, the same as though order-signal indicated stop?

*Answer.*—It is better practice and more satisfactory to deliver a clearance card to any train stopped by a red signal of any kind, if displayed on the office-building or platform.

*Question No. 22.*—Should it be desired to stop a train which has the letter “f” before its schedule, what kind of a signal may be used?

*Answer.*—If stopped for train orders, must display the order-signal; if stopped for passengers or freight, use combination green and white flag by day, green and white lanterns by night, placing the lanterns 24 inches apart. Should display flag or lanterns in same place all the time, and where they can be seen in ample time by approaching train. Should not wave the flag or lanterns.



*Question No. 23.*—What kind of a fusee is used to stop a train? To caution?

*Question No. 24.*—Give a signal by hand or lantern to stop? To proceed? To back? Train parted?

*Question No. 25.*—How does an engineman whistle for brakes? Release brakes? Protect rear of train? Flag-man return from West? South? East? North? Train parted? Back? Stop at next station? Acknowledge signals displayed for a following section? Acknowledge signal to stop? Call for signals? Call attention to signals displayed for a following section? Station whistle? Road crossing whistle?

*Question No. 26.*—How many torpedoes are used to indicate stop? Caution?

*Question No. 27.*—Should you wish to stop a passenger train by pulling signal-cord, how many air-whistle signals must be given, and in what manner?

*Answer.*—Two; allowing about two seconds between them.

*NOTE.*—Be prepared to answer correctly any question that may be asked you concerning Rules 7 to 29, inclusive.

## SUPERIORITY OF TRAINS.

### RULE 71.

*Question No. 28.*—A train is superior to another train in three ways; what are they?

*Answer.*—By right, class, and direction.

*Question No. 29.*—How is right conferred?

*Answer.*—By train order.

*Question No. 30.*—How are class and direction conferred?

*Answer.*—By time-table.

*Question No. 31.*—Which is superior, right or class, and why?

*Answer.*—Right, because it may suspend either the time-table or conflicting rules:

### MOVEMENT OF TRAINS.

#### RULE 82.

*Question No. 32.*—Should a train have two times at your station and you have an order for it, must order-signal be kept displayed at stop until twelve hours after its schedule leaving time, if order is not delivered to it before?

*Answer.*—Yes. Dispatcher can run a train out on the schedule any time before the schedule becomes twelve hours late leaving, even though the train due to arrive dies by becoming twelve hours late before it arrives and flags in, or loses its schedule by becoming twelve hours late on its arriving time after having arrived less than twelve hours late.

#### RULES 91 AND 91 (a).

*Question No. 33.*—Explain Rules 91 and 91 (a).

*Answer.*—Must not allow a passenger train to follow any train closer than ten minutes, nor permit any train to follow a passenger train closer than ten minutes; other trains must be kept five minutes apart. The order-signal may be used to space trains. May slow a train by hand-signal to advise that it is following a train too closely, and then allow it to proceed, if grade, curve or weather conditions are such that the train might be struck by a following train while waiting at order-signal for the space-time to expire.

This provision does not apply where the block system is in effect—block rules govern at such stations.

NOTE.—Question No. 33 is based on the following rules, which are sometimes so worded. Whatever the practice is where you are working should be observed, and answer made to conform to such requirement :

“91. Passenger trains in the same direction must keep at least ten minutes apart, and no train may precede or follow such trains closer than ten minutes, unless some form of block signal is used.

“All other trains must keep at least five minutes apart, except in closing up at stations, unless some form of block signal is used.”

“91 (a). Where the block system is not in effect, operators will keep trains the required distance apart by displaying the train-order signal at stop after the rear of a train has reached a point three hundred feet beyond such signal.”

### RULES 83 AND 95.

*Question No. 34.*—At what stations may you authorize trains to run in sections, and how must it be done?

*Answer.*—At stations as shown by time-table. Must instruct them over the initials of the Chief Train Dispatchers, on Form No. —, and as prescribed by Form F in the book of rules. Some companies allow sections to be created in this manner, while others prefer to instruct by train order.

*Question No. 35.*—If a regular train is not to run in sections, how is it created at its initial station?

*Answer.*—By delivering to the crew a clearance card addressed to the train. The engine number is not referred to on the card. If dispatcher is busy, or the wires not working, may clear the train without consulting him, if no orders awaiting it to be signed by its conductor; ordinarily, however, should advise the dispatcher that the train is ready, to enable him to issue final instructions,

if any. Dispatcher will not use a train order number in connection with clearance card at such places. Form A clearance card is used at initial stations, the same as elsewhere.

NOTE.—Questions Nos. 34 and 35 are based on the following rules, which are sometimes so altered. Consult the book which is to govern you and be prepared to answer these questions as may be necessary :

“83. A train must not leave its initial station on any division, or a junction, or pass from double to single track, until it has been ascertained whether all trains due, which are superior, or of the same class, have arrived or left.

“A train must not leave its initial station on any division without a Clearance Card, Form A.”

“95. Two or more sections may be run on the same schedule.

“Each section has equal time-table authority.

“A train must not display signals for a following section unless directed by train order to do so, except that at certain stations designated on the time-table, operators may, over the initials of the Chief Train Dispatcher, authorize trains to run in sections. Such instructions shall be written in manifold on white paper and must be signed by the conductor, who will deliver a copy to each of his enginemen.”

### RULE 96.

*Question No. 36.*—When notified that a section has taken down its signals at your station, what action must you take to protect the following section until it arrives?

*Answer.*—Must display order-signal at stop and allow no opposing train to leave the station without giving it notice that signals were taken down. Must not get the impression that only opposing trains of the same class, and inferior trains, need be notified, unless the rules so

prescribe; as some companies desire to have all opposing trains stopped and advised, regardless of class, until the section for which signals were displayed has arrived. This provision also includes opposing extra trains.

*Question No. 37.*—May you assume the section for which signals were displayed has arrived when a following train arrives and pulls in on siding?

*Answer.*—Must see the conductor personally, or be advised by him by telephone that the section for which signals were displayed has arrived, and is clear of main track, before restoring the order-signal to proceed. Should conductor telephone his arrival, I must question him as to whether he also displayed signals, and if so, must not change order-signal to proceed until the last section running on the schedule has arrived, or the matter is otherwise provided for by dispatcher.

*Question No. 38.*—If directed by dispatcher not to display order-signal at stop for this purpose, or requested by him to change it to proceed to allow certain disinterested trains to pass, must you be governed accordingly?

*Answer.*—Yes.

#### RULE 99.

*Question No. 39.*—Should you find it necessary to perform the duties of a flagman, what must you take with you, how far must you go, and how should torpedoes be placed on the rail?

*Answer.*—See Rule 99.

*Question No. 40.*—May the single torpedo be left on the rail when flagman returns to his train, expecting to proceed?

*Answer.*—No; that would delay the next train unnecessarily. When torpedoes are used to caution a train,

should place on rail not less than 30 nor more than 200 feet apart.

*Question No. 41.*—May you inform trainmen that there are no extras following, and that they need not flag?

*Answer.*—No; an extra might be started by dispatcher immediately thereafter without advising me, or a regular train ahead of time might be overlooked by either the dispatcher or myself; also, such information might be taken to mean that no extras would be run on that day and crew fail to protect at some other station.

#### RULE 104.

*Question No. 42.*—May you handle switches for trainmen?

*NOTE.*—Answer *Question No. 42* as instructed by the company employing you; ordinarily, however, it is answered as follows:

*Answer.*—Not unless so instructed by dispatcher; or it is made a part of my duty at a tower or end of double track; or an accident can be prevented by doing so.

### MOVEMENT BY TRAIN ORDERS.

#### RULE 201.

*Question No. 43.*—May an order be delivered which is dim, scratched, or so poorly written that it cannot be read without hesitation?

*Answer.*—No. Must write plainly, separate each word and figure, and avoid close, small writing. Orders must not contain interlineations or erasures, nor have a word or figure altered by writing over it. Carbons must not be used after they become so badly worn that they will not make a distinct copy; nor may worn carbons be used in making copies of clearance cards. If dispatcher

transmits an order incorrectly, he may be requested to send me another copy, instead of instructing me to change certain parts of the order. Should I make the mistake, I must make a new order and repeat it to dispatcher.

*NOTE.*—The hand-write of an operator is about the first thing considered by officers. If it be small and lines are not properly spaced, or there is evident indifference as to writing plainly, he is not regarded as a proper person to entrust with train orders.

Recently, great loss of life resulted through an operator writing a "schedule order" so carelessly that time intended to be shown opposite station E, appeared nearly on line with station D. It is hoped and trusted that this needless sacrifice will vividly impress all with the necessity of exercising greater care in writing orders.

Never run numerals together, nor form the bad habit of making them so a cipher will resemble a figure six, a three an eight, seven a nine, or fail to close top of a figure eight.

*Question No. 44.*—If you have been asleep, or find it necessary to go uptown on an errand, and, upon your return, you are asked by the dispatcher if a certain train has passed, or are offered an order for it without his making inquiry, what precautions must you take to insure against loss of life or destruction of property?

*Answer.*—Must say that I have been asleep, and am not sure the train has not passed, or that I entered a building uptown and the train might have passed while I was within. I fully realize the risk of saying "not yet" when asked for a train in case I have not been constantly at my office and awake, or have had some competent person there to keep me advised as to passage of trains.

#### RULE 204.

*Question No. 45.*—What is the exact meaning of the second paragraph of Rule 204?

*Answer.*—An order addressed only to operator restricts trains affected the same as if addressed to them. Trains may be directed to meet, or wait until a certain time, in this manner. Copies of such orders, accompanied with clearance cards, must be delivered to all trains concerned.

#### RULES 206 AND 209.

*Question No. 46.*—If typewriter is used for copying train orders, with what kind of type must it be equipped, and what precaution must be taken in case additional copies are made?

*Answer.*—Should use standard large Roman or similar type, repeat to dispatcher the copies made later and receive another complete. Must carefully observe all of the requirements of Rules 206 and 209.

#### RULE 208.

*Question No. 47.*—Explain Rule 208.

*Answer.*—An order addressed to operator, fixing a meeting point, requires both order-signals to be displayed at stop. An order stating that a train will wait until a certain time, requires the order-signal governing such train to be displayed at stop. Must deliver copies of the meeting order to all trains affected until all have arrived from one direction—it is immaterial which direction—then the order-signal must be restored to proceed, if the order is not also addressed to a train in the opposite direction, or there are no other orders in effect at my station. If there is a telephone at the switch where the inferior train enters the siding, may change order-signal to proceed upon receipt of information by telephone from conductor that the inferior train is clear, if order is not also addressed to a train, and provided always that it is known the train reporting clear is no longer concerned in the



order. Should there be doubt, as there would be if a meeting point is thus fixed between extras, or a regular train takes siding for some other regular train and is restricted for an extra or another opposing regular train, must deliver copies to all until all have arrived from one direction. Dispatcher should be consulted in such cases, or copies delivered. Must not forget that a train may stop or take siding to meet a train other than the one mentioned in the meeting order addressed to operator. If the train inferior by time-table is unable to clear main track, should not change order-signal to proceed until the superior train is stopped, except when such inferior train is directed by order, or time-table, to hold the main track at my station, then the order-signal may be changed to "proceed" after delivering orders to it.

*Question No. 48.*—If the order is addressed only to operator, and is a time-order, when may you change order-signal to proceed?

*Answer.*—When copies have been delivered to trains restricted; or all trains to be waited for are positively known to have arrived; or when the time mentioned in the order has expired.

*Question No. 49.*—The order may be a 19 or 31; what is your understanding in either case?

*Answer.*—If a 19, would deliver without obtaining signatures. If a 31, addressed only to operator, only the operator signs it and complete is given only for him, but must deliver copies to all trains affected. If a 31 to operator and No. 1, fixing a meeting point with No. 2, must deliver to No. 2, but without taking their signature. Must send my signature and that of conductor of No. 1 to dispatcher, and deliver to No. 1, or have the order annulled after No. 2 has arrived.

*Question No. 50.*—If the order is addressed to a train, how must it be handled?

*Answer.*—If a 19, must be delivered without regard to whether all trains in the opposite direction have arrived. If a 31, must be delivered in the same manner, but not until signature of conductor is placed on the order and complete is obtained. If a time-order addressed to a train, it must be delivered as above, even though the time mentioned has expired, and the train to be waited for is on the siding; or the order must be annulled.

*Question No. 51.*—How should the order be annulled if not necessary to deliver?

*Answer.*—When the conductor of the inferior train reports by telephone, or in person at the office, that his train is clear, I may "O S" the train as arriving, then ask the dispatcher for his next order number to annul the order which is addressed to the opposing train at my station. Time can be saved by repeating the annulment of the order without dispatcher sending it.

*Question No. 52.*—Should an order be addressed to operator, stating that No. 1 will meet No. 2 at your station, and, upon arrival of No. 1, an order is given to them to meet No. 2 at some other station instead, must you also deliver No. 1 a copy of the order to meet No. 2 at your station?

*Answer.*—Must deliver the order to meet at my station to all trains affected, and also the order to meet at some other station instead of mine, or have the dispatcher annul the order to meet at my station. If the meeting point is changed by addressing the order to the trains before arrival at my station, a copy of such order also addressed to me would be authority for me to file the order to meet at my station, provided the entire order is thereby superseded.

*Question No. 53.*—Does the middle order addressed to operator clear trains affected on your order-signal?

*Answer.*—An order addressed to operator, similar to one directing No. 1 to meet No. 2 at my station, restricts both trains. Copies of such order delivered with clearance cards to either of these trains is a clearance on my order-signal. An order conferring superiority, or advancing a train beyond my station, must be addressed to the conductor and engineman.

*Question No. 54.*—Must you keep well supplied with 19 and 31 orders, and have an ample number always ready, so dispatcher will not have to wait for you to prepare books?

*Answer.*—Yes.

*Question No. 55.*—May an order be copied beneath another on same book of manifold?

*Answer.*—No. The order underneath might easily be overlooked.

*Question No. 56.*—Must you copy the entire middle order, or only such part as refers to trains that will meet or wait at your station?

*Answer.*—Must copy the entire order; to do otherwise would be unsafe. Conductors or enginemen receiving the abridged copy might overlook additional instructions to be found in the copy delivered them before arrival at my station. Should dispatcher instruct some other operator to make certain additions to his copy, I am not required to also add such information to my copy.

*Question No. 57.*—Is simply accepting orders for a train all that is required?

*Answer.*—No; must personally attend to the delivery, not place on counter and depend upon conductors to look them over and secure copies of all that concern them.

NOTE.—There are two code rules No. 208. One provides for including operator at place of meeting, the other does not. Refer to your book and answer questions as may be necessary, should the “middle order” not be in use on your road.

Some operators understand that copies of meeting or waiting orders must be delivered only until all trains affected are known to have arrived from one direction. The rule means that copies must be delivered to all trains concerned, until all moving in one direction have received copies. Where there are telephones at switches, I have made what appears to me to be a reasonable exception, but such exception may not meet with the approval of all officers.

#### RULE 210.

*Question No. 58.*—Should you, whenever possible, observe how other operators repeat orders, and should their repetition not agree with your copy, what must you do?

*Answer.*—Yes. If there is a difference, must call on dispatcher to decide whose copy is correct; not alter my copy to agree with that of some other operator, as his repetition may not be right. May check repetitions by underscoring copy which is to be placed on file in my office.

*Question No. 59.*—Must conductors and pilots read 31 orders aloud to you before signing them, and each sign and receive complete?

*Answer.*—Yes; except that all companies do not require 31 orders to be read aloud to operator. It is generally conceded to be the safer practice, however.

*Question No. 60.*—When are enginemen required to sign 31 orders?

*Answer.*—When they have not a conductor or pilot; or their engine has passed an order-signal which was not at stop when they pulled by it; when their train has been cleared on the order-signal even though engine has not passed such signal; and at blind sidings. Enginemen sign in same column as conductor (unless the 31 form provides a column for their signatures), endorsing occupation at side of name thus, “Engr.”

*Question No. 61.*—May engineman or brakeman sign an order for conductor, or fireman for engineman?

*Answer.*—No.

*Question No. 62.*—May you sign conductor’s name to an order, even though directed to do so by dispatcher, or send conductor’s signature before he has actually written it upon the order?

*Answer.*—No.

*Question No. 63.*—May you endorse an order as being complete, without complete, and the time, having actually been telegraphed or telephoned from dispatcher’s office?

*Answer.*—No; dispatcher must transmit the complete, and the time.

*Question No. 64.*—If an emergency should arise requiring complete to be given before signature is obtained, may dispatcher authorize it?

*Answer.*—Dispatcher may give complete to an order before receiving signature, if a storm or fire is likely to cause delay to the train by destroying the wires; but he must actually transmit the complete, not say to operator, “If wires fail, complete the order after you get signature.”

*Question No. 65.*—Is it necessary to place the initials of anyone at the side of or under the word complete?

*Answer.*—No.

*Question No. 66.*—Explain how complete must be endorsed on 31 orders.

*Answer.*—There must be a separate complete, and the time, written on every line bearing a signature; one complete will not answer for several trains. If two or more conductors sign an order, and their signatures are transmitted to dispatcher at the same time, must write “Com,” and the time, on each line, even though it be sent to me only once by dispatcher. Must not “dot” under the “Com” in line above, write the word diagonally across the form, nor place a bracket at end of names and write only one complete for all. Should the order be addressed to operator and a train, I should also sign my name in conductor’s column, writing “Opr” after same, otherwise, conductor will likely sign on first line and might get the impression that the complete given for me was intended for his train.

*Question No. 67.*—May complete be written upon an order before it is actually sent by the dispatcher, even though operator does not endorse the time?

*Answer.*—*Decidedly not.*

*Question No. 68.*—Do dispatchers or operators use their initials or private signals in connection with orders?

*Answer.*—Under code rules dispatchers do not use their initials, and they are not endorsed on orders. They transmit the initials of Superintendent, or some other officer, after finishing the wording of an order, and operator writes such initials on the order. Operators do not use their initials, except in sending the X response; they sign their last name in full on 31 orders, and, when such orders are addressed to them, transmit their name to dispatcher in the same manner that they send the signature of a conductor. Private signals are not used.

*Question No. 69.*—If you have a 31 order addressed to “All Concerned,” dated May 1st, and it is signed by conductor on, say May 4th, how must complete be written, to avoid argument or confusion?

*Answer.*—After the word “Com” should write the date the order is actually completed, thus 5/4. It is not necessary to do this in case an order is addressed to a train before midnight, but is not delivered until after midnight.

*Question No. 70.*—Must you say “S D,” adding the direction as north, south, east, or west, as may be necessary, the first thing after opening key to repeat an order, and follow this by “31,” or “19?”

*Answer.*—Whatever Rule 221 prescribes, must be fully complied with, to enable dispatchers to make proper record.

*NOTE.*—Should a 31 order be addressed to operator and a train, operator transmits his signature to dispatcher immediately after having repeated such order and obtains complete for himself, except when conductor is at hand and his acknowledgment can also be secured without delay.

#### RULE 211.

*Question No. 71.*—Explain the 19 order.

*Answer.*—The 19 order is not signed by any one, except that I endorse my name thereon in space provided, as a matter of record. I do not transmit my name to dispatcher. The order-signal must be displayed at “stop” for these orders, the same as the 31 form, and they must be delivered with the same care. Dispatchers will decide as to when to use the 19. Should dispatcher desire to annul an order which I am holding for a train, he may do so by use of the 19 form. If I have a 19 and a 31 for a train must not deliver the 19 until the 31 is signed and

completed. Should an order affect a train at my station, must bring such train to a stop before delivering the order to it; this refers to both the 19 and 31 forms. If there are only helping orders for a train on the 19 form, must, if possible, deliver without stopping train, more especially if for passenger or fast freight trains. Of course the 19 order cannot be delivered at a block office without stopping the train, unless I can secure the services of some employe to make the delivery while I remain in office to hold the block board to "proceed."

NOTE.—Very few companies permit operators to fasten block signals to the "caution" or "proceed" position during the hours the office is open.

#### RULE 211 (a).

NOTE.—Rule 211 (a) is not standard code, but is used quite extensively. Generally, it is worded as below:

"211 (a). Operators must furnish conductors and enginemen a Clearance Card, Form A, with all train orders."

*Question No. 72.*—What is your understanding with regard to clearance cards?

*Answer.*—There is but one clearance card, Form A. It is used at initial stations the same as elsewhere. At initial stations, a regular train not running in sections may be created by simply handing the conductor a clearance card addressed to his train, stating that there are orders or no orders for the train. It is not necessary to refer to the engine which is to run the train, nor is it necessary to consult dispatcher before clearing the train; but, ordinarily, I would report it ready, if no signatures to be sent to him. Clearance cards must be delivered with all orders, making enough copies to furnish each conductor, pilot, and engineman one, and one to keep on file. Under code rules, only the total number of orders



are shown on clearance cards—not individual numbers, but some companies require each order number to be specified. Clearance cards must be timed later than the time that “complete” was given to orders which accompany them.

*Question No. 73.*—If a train has received orders, and has been cleared, and the order-signal is again displayed at stop to hold some other train before the train cleared has passed it, and the conductor or engineman feel uneasy about disregarding the signal, after having had the reason for displaying it explained, and ask for another clearance card, must one be given?

*Answer.*—Another clearance card is unnecessary, but to avoid contention and delay one may be given, reading, “I have no further orders for your train.” If have not delivered orders to the train, must deliver it a clearance card, making it read, “I have no orders for your train.” There is no need of delaying a train through a misunderstanding; should give a clearance card even though I know the rules do not require it, if I have no reason for withholding it.

*Question No. 74.*—When orders are sent to a train at a blind siding, must clearance card accompany them?

*Answer.*—Yes; making it read, “I have 1 order for your train at Pond,” it being understood that Pond is the blind siding.

*Question No. 75.*—If the train in whose care the order is addressed is stopped by your order-signal to get the order, must it receive a clearance card?

*Answer.*—Yes; making it read, “I have no orders for your train,” in case there are no other orders for it. I have no orders for the train, simply an order addressed in care of some person on the train, usually the conductor.

*Question No. 76.*—Must clearance card be delivered with an order addressed only to operator?

*Answer.*—Yes; and in such cases there is no objection to making it read, "I have 1 (No. 25) order for your train," although the order addressed to operator, restricting the train, is a clearance on the order-signal, if delivered with clearance cards, without its number being specified.

*Question No. 77.*—When is the proper time to deliver clearance card under Form J?

*Answer.*—When ready to release the train; it is not necessary to deliver it with copies of the holding order.

*Question No. 78.*—How should clearance card be delivered at block stations?

*Answer.*—If cannot get an employe to make the delivery, the crew will have to come to office for it. May be able to arrange with dispatcher to change order-signal to proceed, until a certain train for which there are no orders has passed, when perfectly safe to do so.

*Question No. 79.*—At offices other than block stations, how must delivery be made, if no orders for the train?

*Answer.*—If cannot arrange with dispatcher to change order-signal to proceed to allow a train for which there are no orders to pass, must deliver it clearance card without delay, and, if possible, without stopping it, especially to passenger and fast freight trains, making it read, "I have no orders for your train."

*Question No. 80.*—Will there be times when more than one clearance card must be delivered to a train?

*Answer.*—Should additional helping orders be sent to a train after having given it a clearance card, and it is by my office, and out of reach, cannot do otherwise than issue a later clearance card calling for such orders and

take or send them to conductor, but when at all practicable, must require the conductor and engineman to surrender their former clearance card and issue another one calling for all the orders I have received for their train.

*Question No. 81.*—When two or more engines are moving a train, must each engineman be furnished copies of all train orders addressed to or affecting the train?

*Answer.*—Yes; also clearance cards.

*NOTE.*—Some clearance cards have a line reading, "Signal is out for —." Should it be necessary to clear a disinterested train on order-signal, this line must show why such signal is at stop. Some companies permit operator to say "for block."

#### RULE 212.

*Question No. 82.*—Explain how an order is "X-d."

*Answer.*—Must follow the form as outlined by Rule 212. I "X" orders only when directed to do so by dispatcher, at other times that part of the form is not filled out. Can "X" either the 19 or 31 form, ordinarily, however, "X" only the 31 form; the 19 is generally repeated immediately upon receipt and then completed. Sending the "X" response does not relieve me from securing the wire as quickly as possible thereafter, and also repeating the order. Must not wait to repeat until called upon by dispatcher.

#### RULE 214.

*Question No. 83.*—Fully explain revised code Rule 214.

*Answer.*—"O K" is not endorsed upon or used in connection with train orders. They are made to act as holding orders for trains addressed, until complete is given, by *repeating* them, or giving the X response. If wires

fail while I hold an order addressed to a train, which has been repeated or X-d, but not completed, I cannot release the train when the time has expired, or the train to be met has arrived; cannot treat the order otherwise than as an order to hold such train for orders.

*Question No. 84.*—Let us see if you fully understand this important rule. If you hold an order addressed to No. 1, which you have repeated or X-d, but which has not been completed, instructing them to meet No. 2 at your station, and the wires fail, may you release No. 1 upon receipt of signature of conductor of that train, provided No. 2 has arrived?

*Answer.*—No. Must hold No. 1 until complete has been given. Of course No. 2 may proceed, as the order is not addressed to them.

*Question No. 85.*—If it be a time-order, and the time has expired, and the train to be waited for has arrived, then may you release the train addressed?

*Answer.*—Certainly not.

*Question No. 86.*—You may repeat the order or send the X response, and there may seem to be a ground wire on, or for other reason dispatcher may not have heard you do so, what must be understood in such cases?

*Answer.*—As to then holding the train, it is immaterial whether I conclude that, on account of a ground, or for other reason he did not hear me repeat or send the X response, I have repeated or X-d the order, now, the rule states, it is my duty to treat the order as a holding order for the train addressed, but I cannot take any further action in the matter, simply must then hold the train, regardless of the contents of the order, until I get complete from dispatcher. I am not the dispatcher, therefore cannot complete orders. Dispatcher is not required

to "O K," or in any other manner acknowledge my having repeated or X-d an order.

*Question No. 87.*—If you have not repeated the order, or sent the X response, and the wires fail, what must be understood?

*Answer.*—After satisfying myself that the dispatcher cannot be reached by wire or telephone, I may destroy such order in time to avoid delaying the train addressed. Would treat the order as if it had not been sent to me.

*Question No. 88.*—When may you endorse the time on a 31 order, showing that it has been repeated?

*Answer.*—When I have actually repeated it, never until then. Must write the time repeated as shown by my watch; it is not sent to me by dispatcher.

*NOTE.*—It is claimed that some companies permit operators to complete certain kinds of orders in case of wire failure, but the practice is unauthorized by code rules. The writer believes that it may be done with perfect safety in some instances, but it must not be understood that such practice is recommended.

## RULE 217.

*Question No. 89.*—Explain Rule 217.

*Answer.*—An order for a train at a blind siding, or sometimes when out of reach at a telegraph office, is addressed in care of the person who is to deliver it, not in care of No. 1, but in care of conductor of No. 1. If a 19 for one train, must deliver two copies and two clearance cards; if a 31, must have the person in whose care addressed sign the order and secure complete for him, then deliver him three copies and two clearance cards. The train acts on the complete which was given for the person in whose care the order is addressed.

When a copy of an order which has been signed by conductor and engineman at a blind siding is left at my office, must immediately transmit the signatures to dispatcher.

#### RULE 218.

*Question No. 90.*—Explain Rule 218.

*Answer.*—An order addressed to or affecting No. 1 includes all sections of that schedule, unless particular sections are specified, and all the sections must be given copies. Should I hold an order addressed to operator, stating that No. 1 will meet No. 2 at my station, and either of these schedules be represented by sections, must not change order-signal to proceed, until have delivered copies to all sections moving in one direction.

#### RULE 219.

*Question No. 91.*—Explain Rule 219.

*Answer.*—If the order-signal is at stop when engine passes it, the train is held the same as if the engine had not passed, and, until the train is cleared, I may continue to accept orders for it without obtaining engineman's signature, but of course must not change order-signal to "proceed" during such time. If a train has been cleared, but its engine has not passed the order-signal, must not, unless otherwise directed, repeat or "X" orders for such train without first getting signatures of conductor and engineman; nor may I do so if engine is under or just by the order-signal, unless "stop" was indicated before engine passed it. Must bear in mind that conductors sometimes ride on engines, and that a train can be held only once with the order-signal, and that to hold it the order-signal must indicate "stop" before engine passes it. Cannot hold by displaying order-signal against it a second

time, even though engine has not passed it. The train cannot be held by simply giving notice to its crew verbally, or by securing signature of only the conductor, as it might leave the station on signal without its conductor, or engineman knowing that his train is superior, may arrange with brakeman to go beyond the switch where inferior trains take siding, to pick up a car or take water.

*Question No. 92.*—If, after dispatcher sends you an order for a train, the engine of which has passed your order-signal at proceed, or you have cleared the train and its engine is not by the board, he tells you to repeat the order, and he will complete it; that the train cannot go without it; or it is an order which if not delivered will cause only a delay to the train, may you do so?

*Answer.*—Yes; that is what “otherwise directed” in the rule means. I of course must tell him that I have not the train held, otherwise he may assume that I have. I may accept an order for a train at any time, but must not repeat or “X” it until such train is properly held as described, unless directed by dispatcher to do so after having explained that my order-signal will not hold the train. The dispatcher may be requested to send me a 31 if must obtain signatures; cannot well do so on the 19 form.

*Question No. 93.*—May order-signal be displayed at stop to assist in stopping a train which has been cleared, or of which the engine has passed the order-signal?

*Answer.*—Yes; but must also give hand-signal to stop, and must not understand I have the train held until signatures of conductor and engineman are placed on the order.

*Question No. 94.*—May you require conductor or brakeman to get engineman’s signature for you if you cannot leave office to do so?

*Answer.*—Yes.

*Question No. 95.*—After clearing a train, may verbal notice be given that such train is wanted for further orders?

*Answer.*—Yes; but the train is not held until the orders are signed by conductor and engineman.

*Question No. 96.*—If signature of conductor cannot be obtained promptly, and dispatcher is in hurry to move another train against the train at your station, may you understand you have such train securely held by obtaining only the signature of its engineman?

*Answer.*—Yes; but must get conductor as quickly as possible thereafter.

*Question No. 97.*—When enginemen who have conductors sign orders at your station, how is complete written upon them, and to whom must such orders be delivered?

*Answer.*—"Com" is written on the line bearing conductor's signatures; the orders are then delivered to conductors.

*Question No. 98.*—May you repeat a 19 order and receive complete if the train addressed has been cleared or its engine is by order-signal, on the supposition that, being a 19, it is not a holding but a helping order, and the train must receive it before it can leave your station?

*Answer.*—No. Must be governed strictly by the rule, not assume anything.

**NOTE.**—An order, advising an inferior train that a superior train will run late, is sometimes delivered to the inferior train at a station before it is ready to depart, to enable it to work on the main track without protecting; but with the understanding that conductor will report at office for further orders when ready. If, afterward, an order be sent to this train, reducing the run-late time,



fixing a meeting point with another train, or in any other manner restricting its superiority, operator must not repeat or "X" such order until signatures of conductor and engineman have been secured. The fact that certain companies require clearance cards to be delivered with orders before a crew may understand that they are released from the order-signal, and that the train in question had not been given clearance cards, or that an arrangement was made with conductor to again report at office, is not thought to be sufficient. Engineman might, without properly protecting, run his engine beyond the switch where opposing trains take siding; or the train be on the main track when it should take siding for the train to be met; or enginemen receive a proceed signal, unauthorized by conductor, and leave the station without his conductor.

The latest revised code Rule 219 reads, "Unless otherwise directed, an operator must not repeat or give the 'X' response to a train order for a train which has been cleared or of which the engine has passed his train order-signal until he has obtained the signatures of the conductor and engineman to the order."

#### RULE 220.

*Question No. 100.*—Explain Rule 220.

*Answer.*—An order addressed *only* to operator is fulfilled when all trains affected have arrived from one direction—it is immaterial which direction—and have received copies, or when the inferior train has telephoned that it is clear, provided am certain such inferior train is not further concerned in the order, and cannot move against the train it is to meet; if am uncertain, must deliver copies to it, or consult the dispatcher. If a time order, addressed only to operator, such order becomes void and I may change order-signal to "proceed" when the time mentioned has expired, if the trains affected fail to arrive from one direction before. Of course all orders held for or affecting a regular train become void when

such regular train's schedule ceases to exist, as provided for by Rules 4 and 82.

An order addressed to operator, or to "All Concerned," at my station, annulling a schedule, renders void all orders I may hold relating to such schedule.

If a *schedule* becomes twelve hours late on its *leaving* time, all orders held for or relating to trains running thereon thereupon become void. At the end of a train's run, where only arriving time can be shown, orders relating to such train become void when its schedule is twelve hours late on its arriving time.

An order addressed to a train, or to operator and a train, must be delivered to such train *without regard to the contents of the order*, while such train has life, or the order must be annulled. I am not concerned in an order addressed to a train, except to make the delivery; am not allowed to determine when such order is fulfilled or becomes void, even though it be a time-order, and the time has expired, or the train to be met has arrived; the crew or dispatcher must decide as to that.

Should I hold an order addressed to "All Concerned," running, say No. 2, one hour late, must deliver a copy to No. 2, as they are concerned, or have a clear understanding with dispatcher that he does not wish No. 2 or certain other trains stopped for copies. In all cases when an order is addressed to "All Concerned," must display the order-signal as may be necessary, and deliver to all trains concerned, or receive specific instructions from the dispatcher as to what trains he does not wish the order delivered to.

Must not "file" an order addressed to a train when a later order is received which seems to make the delivery of the former order unnecessary; for instance, if No. 1

is instructed to run one hour late, and a later order directs them to run one hour and ten minutes late, must deliver both orders, or have dispatcher annul the order to run one hour late.

May "file" an order addressed to "All Concerned," running a train late, when the run-late time has expired, except that copies must be delivered to the train directed to run late unless it is clearly evident that such train is not to receive copies at my office, otherwise it may recover time, and, not having a copy, might run less late.

May "file" an order addressed to "All Concerned," annulling a schedule, when such schedule becomes twelve hours late at my station.

NOTE.—"Filing" orders for trains is not authorized by code rules. Operators must be governed with regard to this by the instructions given by the company employing them. The above is simply the common practice.

#### RULE 221.

*Question No. 101.*—What is your first duty after receiving signal "19" or "31"?

*Answer.*—Display the proper order-signal at "stop," it being understood that dispatcher will indicate the direction. Some companies permit operators to defer displaying "stop" until address of order is received.

*Question No. 102.*—When may you restore the signal to "proceed?"

*Answer.*—When the order has been delivered to the train, or is annulled. If addressed only to operator, when fulfilled, annulled, or it becomes void.

*Question No. 103.*—May the signal be changed to proceed to allow a train for which there are no orders to pass?

*Answer.*—Not without arranging with dispatcher, and not then if there be a train at my station which must be held by the board. Must not fasten order-signal to “proceed” to allow a disinterested train to pass, but hold it by hand, to prevent overlooking again displaying “stop” after such train has passed.

*Question No. 104.*—Are you required to have the proper appliances at hand to use in case order-signal should fail?

*Answer.*—Yes; red flag, red lantern, red fusees, and torpedoes.

*Question No. 105.*—Must you precede the X response or the repetition of the order by “S D,” adding the direction as north, south, east, or west?

*Answer.*—Yes; except that it is not necessary to display order-signal at stop, or state that it is so displayed, for an order which only *creates* a train, or when conductor requests me to get help for his train against a superior train, provided such *helping* order does not also contain instructions to meet or wait for another train which may be inferior to his.

*Question No. 106.*—May you give a train a signal to come to office on main track?

*Answer.*—Not without consulting dispatcher; there may be other orders in effect for the train which require it to take the siding, and of which I am not advised, and my signal might mislead it.

#### RULE 222.

*Question No. 107.*—Must you “O S” trains to dispatcher as promptly as practicable, and at stations where train registers are provided must signals registered by sections be reported?

*Answer.*—Yes; by adding “green,” or “no signals,” as the case may be.

## MISCELLANEOUS.

*Question No. 108.*—When you are relieved by another operator, must a transfer of all outstanding orders be made?

*Answer.*—Yes; on form provided.

*Question No. 109.*—May train numbers or signals registered be changed on a train register, without instructions being given you by train order to do so?

*Answer.*—If train number is written incorrectly, or a train is registered as having “no signals” when it should have registered “green,” or is registered “green” when it had no signals, correction must be made by train order. If conductor makes a mistake, should, when possible, have the error also noted by some other person before erasing the original register, as he may dispute the fact.

*Question No. 110.*—May abbreviations, such as “&,” be inserted in the body of orders?

*Answer.*—Must write it “and.” Only the abbreviations authorized by the book of rules may be used.

*Question No. 111.*—May the station number be written, in lieu of its name?

*Answer.*—No. Last paragraph of Rule 223 means the name may be abbreviated on the date line, or on line of order designating the station at which received, as “Chatta.” for Chattanooga.

*Question No. 112.*—Which should receive first attention, orders and messages relative to train service, or the other duties about the station?

*Answer.*—Orders and messages. Must not allow way-bills or other papers to cover up train orders and possibly

cause them to be overlooked. Must do such work as "expensing" at another desk. Must be within hearing of instruments when possible.

*Question No. 113.*—Must the public, and employes whose duties do not require them to enter your office, be excluded therefrom?

*Answer.*—Yes.

*Question No. 114.*—May you absent yourself from duty, change off with or work for another operator, without permission?

*Answer.*—No.

*Question No. 115.*—Are you permitted to run about the road while off duty?

*Answer.*—Must remain within the vicinity of the station where employed.

*Question No. 116.*—Must night operators who handle train orders take proper rest during the day?

*Answer.*—Yes; this is imperative.

*Question No. 117.*—May you make public the facts or particulars of an accident, or other affairs of the Company?

*Answer.*—Only to the proper officers.

*Question No. 118.*—Explain Form J.

*Answer.*—It is proper for dispatcher to use either the 19 or 31 form. Such orders are addressed only to operator. Must deliver copies of the holding order, and the release, to all trains affected, but without obtaining signatures of conductors or enginemen, except as prescribed by Rule 219.

NOTE.—Some rule books provide for operator securing signature of conductor to the holding and releasing orders.

